IV. Environmental Impact Analysis

H. Noise

1. Introduction

This section of the Draft EIR analyzes potential noise and vibration impacts of the Project. Included in this section is a description of the existing noise environment within the Project Site area, an estimation of future noise and vibration levels at surrounding sensitive land uses associated with construction and operation of the Project, a description of the potential significant impacts, and the inclusion of mitigation measures to address any identified potential significant impacts. Additionally, this section of the Draft EIR evaluates the Project's incremental contribution to potential cumulative noise and vibration impacts resulting from past, present, and probable future projects. This section summarizes the noise and vibration information analyses provided in the Noise and Vibration Calculation Worksheets included in Appendix L of this Draft EIR.

2. Environmental Setting

Due to the technical nature of noise and vibration impacts, a brief overview of basic noise principles and descriptors is provided below.

a. Noise and Vibration Basics

(1) Noise Principles and Descriptors

Sound can be described as the mechanical energy of a vibrating object transmitted by pressure waves through a liquid or gaseous medium (e.g., air). Noise is generally defined as undesirable (i.e., loud, unexpected, or annoying) sound. Acoustics is defined as the physics of sound and addresses its propagation and control.[1] In acoustics, the fundamental scientific model consists of a sound (or noise) source, a receiver, and the propagation path between the two. The loudness of the noise source and obstructions or atmospheric factors affecting the propagation path to the receiver determine the sound level and characteristics of the noise perceived by the receiver.

[1] *Caltrans, Technical Noise Supplement to the Traffic Noise Analysis Protocol, Section 2.2.1, September 2013.*

Sound, traveling in the form of waves from a source, exerts a sound pressure level (referred to as sound level) that is measured in decibels (dB), which is the standard unit of sound amplitude measurement and reflects the way people perceive changes in sound amplitude.[2] The dB scale is a logarithmic scale that describes the physical intensity of the pressure vibrations that make up any sound, with 0 dB corresponding roughly to the threshold of human hearing and 120 and 140 dB corresponding to the thresholds of feeling and pain, respectively. Pressure waves traveling through air exert a force registered by the human ear as sound.[3]

Sound pressure fluctuations can be measured in units of hertz (Hz), which correspond to the frequency of a particular sound. Typically, sound does not consist of a single frequency, but rather a broad band of frequencies varying in levels of magnitude. When all of the audible frequencies of a sound are measured, a sound spectrum is plotted consisting of a range of frequencies spanning 20 to 20,000 Hz. The sound pressure level, therefore, constitutes the additive force exerted by a sound corresponding to the sound frequency/sound power level spectrum.[4]

The typical human ear is not equally sensitive to the frequency range from 20 to 20,000 Hz. As a consequence, when assessing potential noise impacts, sound is measured using an electronic filter that deemphasizes the frequencies below 1,000 Hz and above 5,000 Hz in a manner corresponding to the human ear's decreased sensitivity to these extremely low and extremely high frequencies. This method of frequency filtering or weighting is referred to as A-weighting, expressed in units of A-weighted decibels (dBA), which is typically applied to community noise measurements.[5] Some representative common outdoor and indoor noise sources and their corresponding A-weighted noise levels are shown in Figure IV.H-1 on page IV.H-3.

(2) Noise Exposure and Community Noise

Community noise exposure is typically measured over a period of time; a noise level is a measure of noise at a given instant in time. Community noise varies continuously over a period of time with respect to the sound sources contributing to the community noise

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[2] *All sound levels measured in decibel (dB), as identified in the noise calculation worksheets included in Appendix of this Draft EIR and in this section of the Draft EIR, are relative to $2x10^{-5}$ N/m^2.*

[3] *Caltrans, Technical Noise Supplement to the Traffic Noise Analysis Protocol, Section 2.1.3, September 2013.*

[4] *Caltrans, Technical Noise Supplement to the Traffic Noise Analysis Protocol, Section 2.1.3, September 2013.*

[5] *Caltrans, Technical Noise Supplement to the Traffic Noise Analysis Protocol, Section 2.1.3, September 2013.*

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	110	Rock band
Jet flyover at 1,000 feet		
	100	
Gas lawnmower at 3 feet		
	90	
Diesel truck at 50 feet at 50 mph		Food blender at 3 feet
	80	Garbage disposal at 3 feet
Noisy urban area, daytime		
Gas lawnmower, 100 feet	**70**	Vacuum cleaner at 10 feet
Commercial area		Normal speech at 3 feet
Heavy traffic at 300 feet	**60**	
		Large business office
Quiet urban daytime	**50**	Dishwasher in next room
Quiet urban nighttime	**40**	Theater, large conference room (background)
Quiet suburban nighttime		
	30	Library
Quiet rural nighttime		Bedroom at night, concert hall (background)
	20	
		Broadcast/recording studio
	10	
	0	

Figure IV.H-1
Decibel Scale and Common Noise Sources

Source: State of California, Department of Transportation (Caltrans), Technical Noise Supplement, 2009.

environment. Community noise is primarily the product of many distant noise sources, which constitute a relatively stable background noise exposure, with many unidentifiable individual contributors. Single-event noise sources, such as aircraft flyovers, sirens, etc., may cause sudden changes in background noise level.[6] However, generally, background noise levels change gradually throughout the day, corresponding with the addition and subtraction of distant noise sources, such as changes in traffic volume.

In an outdoor environment, sound energy attenuates through the air as a function of distance. Such attenuation is called "distance loss" or "geometric spreading" and is based on the type of source configuration (i.e., a point source or a line source). The rate of sound attenuation for a point source, such as a piece of mechanical or electrical equipment (e.g., air conditioner or bulldozer), is 6 dBA per doubling of distance from the noise source to the receptor over acoustically "hard" sites (e.g., asphalt and concrete surfaces) and 7.5 dBA per doubling of distance from the noise source to the receptor over acoustically "soft" sites (e.g., soft dirt, grass or scattered bushes and trees).[7] For example, an outdoor condenser fan that generates a sound level of 60 dBA at a distance of 50 feet from a point source at an acoustically hard site would attenuate to 54 dBA at a distance of 100 feet from the point source and attenuate to 48 dBA at 200 feet from the point source. The rate of sound attenuation for a line source, such as a constant flow of traffic on a roadway, is 3 dBA per doubling of distance from the point source to the receptor for hard sites and 4.5 dBA per doubling of distance for soft sites.[8]

Structures (e.g., buildings and solid walls) and natural topography (e.g., hills and berms) that obstruct the line-of-sight between a noise source and a receptor further reduce the noise level if the receptor is located within the "shadow" of the obstruction, such as behind a sound wall. This type of sound attenuation is known as "barrier insertion loss." If a receptor is located behind the wall but still has a view of the source (i.e., the line-of-sight is not fully blocked), barrier insertion loss would still occur but to a lesser extent. Additionally, a receptor located on the same side of the wall as a noise source may actually experience an increase in the perceived noise level as the wall can reflect noise back to the receptor, thereby compounding the noise. Noise barriers can provide noise level reductions ranging from approximately 5 dBA (where the barrier just breaks the line-of-sight between the source and receiver) to an upper range of 20 dBA with a larger barrier.[9]

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[6] *Caltrans, Technical Noise Supplement to the Traffic Noise Analysis Protocol, Section 2.2.1, September 2013.*

[7] *Caltrans, Technical Noise Supplement (TeNS), 2009, Chapter 2.1.4.2.*

[8] *Caltrans, Technical Noise Supplement (TeNS), 2009, Chapter 2.1.4.2.*

[9] *Caltrans, Technical Noise Supplement (TeNS), 2009, Chapter 2.1.4.2.*

Additionally, structures with closed windows can further attenuate exterior noise by a minimum of 20 dBA to 30 dBA.[10]

These successive additions of sound to the community noise environment change the community noise level from moment to moment, requiring the noise exposure to be measured over periods of time to legitimately characterize a community noise environment and evaluate cumulative noise impacts. The following noise descriptors are used to characterize environmental noise levels over time.[11]

L_{eq}: The equivalent sound level over a specified period of time, typically, 1 hour (L_{eq}). The L_{eq} may also be referred to as the energy-average sound level.

L_{max}: The maximum, instantaneous noise level experienced during a given period of time.

L_{min}: The minimum, instantaneous noise level experienced during a given period of time.

L_x: The noise level exceeded a percentage of a specified time period. For instance, L_{50} and L_{90} represent the noise levels that are exceeded 50 percent and 90 percent of the time, respectively.

L_{dn}: The average A-weighted noise level during a 24-hour day, obtained after an addition of 10 dBA to measured noise levels between the hours of 10:00 P.M. and 7:00 A.M. to account for nighttime noise sensitivity. The L_{dn} is also termed the day-night average noise level (DNL).

CNEL: The Community Noise Equivalent Level (CNEL) is the time average A-weighted noise level during a 24-hour day that includes an addition of 5 dBA to measured noise levels between the hours of 7:00 P.M. and 10:00 P.M. and an addition of 10 dBA to noise levels between the hours of 10:00 P.M. and 7:00 A.M. to account for noise sensitivity in the evening and nighttime, respectively.

[10] *Caltrans, Technical Noise Supplement (TeNS), 2009, Chapter 2.1.4.2.*

[11] *Caltrans, Technical Noise Supplement to the Traffic Noise Analysis Protocol, September 2013, Section 2.2.2.*

(3) Effects of Noise on People

Noise is generally loud, unpleasant, unexpected, or undesired sound that is typically associated with human activity that is a nuisance or disruptive. The effects of noise on people can be placed into four general categories:

- Subjective effects (e.g., dissatisfaction, annoyance);
- Interference effects (e.g., communication, sleep, and learning interference);
- Physiological effects (e.g., startle response); and
- Physical effects (e.g., hearing loss).

Although exposure to high noise levels has been demonstrated to cause physical and physiological effects, the principal human responses to typical environmental noise exposure are related to subjective effects and interference with activities. Interference effects interrupt daily activities and include interference with human communication activities, such as normal conversations, watching television, telephone conversations, and interference with sleep. Sleep interference effects can include both awakening and arousal to a lesser state of sleep.[12]

The World Health Organization's Guidelines for Community Noise details the adverse health effects of noise, which include hearing impairment, speech intelligibility, sleep disturbance, physiological functions (e.g., hypertension and cardiovascular effects), mental illness, performance of cognitive tasks, social and behavioral effects (e.g., feelings of helplessness, aggressive behavior), and annoyance.[13]

With regard to the subjective effects, an individuals' responses to similar noise events are diverse and influenced by many factors, including the type of noise, the perceived importance of the noise, the appropriateness of the noise to the setting, the duration of the noise, the time of day and the type of activity during which the noise occurs, and individual noise sensitivity. Overall, there is no completely satisfactory way to measure the subjective effects of noise, or the corresponding reactions of annoyance and dissatisfaction on people. A wide variation in individual thresholds of annoyance exists, and different tolerances to noise tend to develop based on an individual's past experiences

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[12] *Caltrans, Technical Noise Supplement to the Traffic Noise Analysis Protocol, September 2013, Section 2.2.1.*

[13] *Berglund, Birgitta, Lindvall, Thomas, Schwela, Dietrich H & World Health Organization, Occupational and Environmental Health Team, 1999, Guidelines for Community Noise. World Health Organization, https://apps.who.int/iris/handle/10665/66217, accessed April 29, 2021.*

with noise. Thus, an important way of predicting a human reaction to a new noise environment is the way it compares to the existing environment to which one has adapted (i.e., comparison to the ambient noise environment). In general, the more a new noise level exceeds the previously existing ambient noise level, the less acceptable the new noise level will be judged by those hearing it. With regard to increases in A-weighted noise level, the following relationships generally occur:[14]

- Except in carefully controlled laboratory experiments, a change of 1 dBA in ambient noise levels cannot be perceived.
- Outside of the laboratory, a 3 dBA change in ambient noise levels is considered to be a barely perceivable difference.
- A change in ambient noise levels of 5 dBA is considered to be a readily perceivable difference.
- A change in ambient noise levels of 10 dBA is subjectively heard as doubling of the perceived loudness.

These relationships between change in noise level and human hearing response occur in part because of the logarithmic nature of sound and the dB scale. Because the dBA scale is based on logarithms, two noise sources do not combine in a simple additive fashion, but rather logarithmically. Under the dBA scale, a doubling of sound energy corresponds to a 3 dBA increase. In other words, when two sources are each producing sound of the same loudness, the resulting sound level at a given distance would be approximately 3 dBA higher than one of the sources under the same conditions. For example, if two identical noise sources produce noise levels of 50 dBA, the combined sound level would be 53 dBA, not 100 dBA. Under the dB scale, three sources of equal loudness together produce a sound level of approximately 5 dBA louder than one source, and ten sources of equal loudness together produce a sound level of approximately 10 dBA louder than the single source.[15]

(4) Noise Attenuation

When noise propagates over a distance, the noise level reduces with distance depending on the type of noise source and the propagation path. Noise from a localized source (i.e., point source) propagates uniformly outward in a spherical pattern, referred to

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[14] *Caltrans, Technical Noise Supplement to the Traffic Noise Analysis Protocol, September 2013, Section 2.2.1.*

[15] *Caltrans, Technical Noise Supplement to the Traffic Noise Analysis Protocol, September 2013, Section 2.2.1.1.*

as “spherical spreading.” Stationary point sources of noise, including stationary mobile sources such as idling vehicles, attenuate (i.e., reduce) at a rate between 6 dBA for acoustically “hard” sites and 7.5 dBA for “soft” sites for each doubling of distance from the reference measurement, as their energy is continuously spread out over a spherical surface (e.g., for hard surfaces, 80 dBA at 50 feet attenuates to 74 dBA at 100 feet, 68 dBA at 200 feet).[16] Hard sites are those with a reflective surface between the source and the receiver, such as asphalt or concrete surfaces or smooth bodies of water.[17] No excess ground attenuation is assumed for hard sites and the reduction in noise levels with distance (drop-off rate) is simply the geometric spreading of the noise from the source.[18] Soft sites are those that have an absorptive ground surface, such as soft dirt, grass, or scattered bushes and trees, which in addition to geometric spreading, provides an excess ground attenuation value of 1.5 dBA (per doubling distance).[19]

Roadways and highways consist of several localized noise sources on a defined path, and hence are treated as “line” sources, which approximate the effect of several point sources.[20] Noise from a line source propagates over a cylindrical surface, often referred to as “cylindrical spreading.”[21] Line sources (e.g., traffic noise from vehicles) attenuate at a rate between 3 dBA for hard sites and 4.5 dBA for soft sites for each doubling of distance from the reference measurement.[22] Therefore, noise due to a line source attenuates less with distance than that of a point source with increased distance.

Receptors located downwind from a noise source can be exposed to increased noise levels relative to calm conditions, whereas locations upwind can have lowered noise levels.[23] Atmospheric temperature inversion (i.e., increasing temperature with elevation) can increase sound levels at long distances. Other factors such as air temperature,

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16 *Caltrans, Technical Noise Supplement to the Traffic Noise Analysis Protocol, September 2013, Section 2.1.4.2.*

17 *Caltrans, Technical Noise Supplement to the Traffic Noise Analysis Protocol, September 2013, Section 2.1.4.2*

18 *Caltrans, Technical Noise Supplement to the Traffic Noise Analysis Protocol, September 2013, Section 2.1.4.2*

19 *Caltrans, Technical Noise Supplement to the Traffic Noise Analysis Protocol, September 2013, Section 2.1.4.2*

20 *Caltrans, Technical Noise Supplement to the Traffic Noise Analysis Protocol, September 2013, Section 2.1.4.2*

21 *Caltrans, Technical Noise Supplement to the Traffic Noise Analysis Protocol, September 2013, Section 2.1.4.1.*

22 *Caltrans, Technical Noise Supplement to the Traffic Noise Analysis Protocol, September 2013, Section 2.1.4.1.*

23 *Caltrans, Technical Noise Supplement to the Traffic Noise Analysis Protocol, September 2013, Section 2.1.4.3.*

humidity, and turbulence can, under the right conditions, also have substantial effects on noise levels.[24]

(5) Vibration Fundamentals

Vibration can be interpreted as energy transmitted in waves through the ground or man-made structures, which generally dissipate with distance from the vibration source. Vibration is an oscillatory motion through a solid medium in which the motion's amplitude can be described in terms of displacement, velocity, or acceleration. Since energy is lost during its transfer from one particle to another, vibration becomes less perceptible with increasing distance from the source.

As described in the Federal Transit Administration's (FTA) *Transit Noise and Vibration Impact Assessment Manual*, groundborne vibration can be a serious concern for nearby neighbors of a transit system route or maintenance facility, causing buildings to shake and rumbling sounds to be heard.[25] In contrast to airborne noise, groundborne vibration is not a common environmental problem, as it is unusual for vibration from sources such as rubber-tired buses and trucks to be perceptible, even in locations close to major roads. Some common sources of groundborne vibration are trains, heavy trucks traveling on rough roads, and certain construction activities, such as blasting, pile-driving, and operation of heavy earth-moving equipment.[26] Groundborne vibration generated by man-made activities (e.g., road traffic, construction operations) typically weakens with greater horizontal distance from the source of the vibration.

Several different methods are used to quantify vibration. The peak particle velocity (PPV) is defined as the maximum instantaneous peak of the vibration signal in inches per second (in/sec), and is most frequently used to describe vibration impacts to buildings.[27] The root mean square (RMS) amplitude is defined as the average of the squared amplitude of the signal and is most frequently used to describe the effect of vibration on the human body.[28] Decibel notation (VdB) is commonly used to express RMS vibration velocity amplitude. The relationship of PPV to RMS velocity is expressed in terms of the "crest factor," defined as the ratio of the PPV amplitude to the RMS amplitude. PPV is typically a factor of 1.7 to 6 times greater than RMS vibration velocity; FTA uses a crest factor of 4.[29]

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[24] *Caltrans, Technical Noise Supplement to the Traffic Noise Analysis Protocol, September 2013, Section 2.1.4.3.*

[25] *Federal Transit Administration, Transit Noise and Vibration Impact Assessment Manual, 2018, Section 7.*

[26] *Federal Transit Administration, Transit Noise and Vibration Impact Assessment Manual, 2018, Section 7.*

[27] *Federal Transit Administration, Transit Noise and Vibration Impact Assessment Manual, 2018, Section 5.1.*

[28] *Federal Transit Administration, Transit Noise and Vibration Impact Assessment Manual, 2018, Section 5.1.*

[29] *Federal Transit Administration, Transit Noise and Vibration Impact Assessment Manual, 2018, Section 5.1.*

The decibel notation VdB acts to compress the range of numbers required to describe vibration. Typically, groundborne vibration generated by man-made activities attenuates rapidly with distance from the source of the vibration. Sensitive receptors for vibration include buildings where vibration would interfere with operations within the building or cause damage (especially older masonry structures), locations where people sleep, and locations with vibration sensitive equipment.[30]

Groundborne noise specifically refers to the rumbling noise emanating from the motion of building room surfaces due to the vibration of floors and walls; it is perceptible only inside buildings.[31] The relationship between groundborne vibration and groundborne noise depends on the frequency of the vibration and the acoustical absorption characteristics of the receiving room. For typical buildings, groundborne vibration that causes low frequency noise (i.e., the vibration spectrum peak is less than 30 Hz) results in a groundborne noise level that is approximately 50 decibels lower than the velocity level. For groundborne vibration that causes mid-frequency noise (i.e., the vibration spectrum peak is 30 to 60 Hz), the groundborne noise level will be approximately 35 to 37 decibels lower than the velocity level.[32] Therefore, for typical buildings, the groundborne noise decibel level is lower than the groundborne vibration velocity level.

b. Regulatory Framework

There are several plans, regulations, and programs that include policies, requirements, and guidelines regarding Noise at the federal, state, regional, and local levels. As described below, these plans, guidelines, and laws include the following:

- Noise Control Act of 1972
- Federal Transportation Administration Vibration Standards
- Occupational Safety and Health Act of 1970
- California Office of Planning and Research Guidelines for Noise Compatible Land Use
- Caltrans Vibration/Groundborne Noise Standards

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[30] *Federal Transit Administration, Transit Noise and Vibration Impact Assessment Manual, 2018, Section 6.1, 6.2, and 6.3.*

[31] *Federal Transit Administration, Transit Noise and Vibration Impact Assessment Manual, 2018, Section 5.4.*

[32] *Federal Transit Administration, Transit Noise and Vibration Impact Assessment Manual, 2018, Table 6-3 and Table 6-14, pp. 126 and 146.*

- Los Angeles County Airport Land Use Commission Comprehensive Land Use Plan
- City of Los Angeles Municipal Code
- City of Los Angeles General Plan Noise Element

(1) Federal

(a) Noise Control Act of 1972

Under the authority of the Noise Control Act of 1972, the United States Environmental Protection Agency (USEPA) established noise emission criteria and testing methods published in Parts 201 through 205 of Title 40 of the Code of Federal Regulations (CFR) that apply to some transportation equipment (e.g., interstate rail carriers, medium trucks, and heavy trucks) and construction equipment. In 1974, USEPA issued guidance levels for the protection of public health and welfare in residential areas of an outdoor L_{dn} of 55 dBA and an indoor L_{dn} of 45 dBA.[33] These guidance levels are not standards or regulations and were developed without consideration of technical or economic feasibility. There are no federal noise standards that directly regulate environmental noise related to the construction or operation of the Project. Moreover, the federal noise standards are not reflective of urban environments that range by land use, density, proximity to commercial or industrial centers, etc. As such, for purposes of determining acceptable sound levels to determine and evaluate intrusive noise sources and increases, this document utilizes the City of Los Angeles Noise Regulations, discussed below.

(b) Federal Transit Administration Vibration Standards

There are no federal vibration standards or regulations adopted by any agency that are applicable to evaluating vibration impacts from land use development projects such as the proposed Project. However, the FTA has adopted vibration criteria for use in evaluating vibration impacts from construction activities.[34] The vibration damage criteria adopted by the FTA are shown in Table IV.H-1 on page IV.H-12.

The FTA has also adopted standards associated with human annoyance for determining the groundborne vibration and noise impacts from ground-borne noise on the following three off-site land-use categories: Vibration Category 1—High Sensitivity;

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[33] *USEPA, EPA Identifies Noise Levels Affecting Health and Welfare, April 1974, https://archive.epa.gov/epa/aboutepa/epa-identifies-noise-levels-affecting-health-and-welfare.html, accessed April 29, 2021.*

[34] *Federal Transit Administration, Transit Noise and Vibration Impact Assessment Manual, 2018, Table 7-5, p. 86.*

Table IV.H-1
Construction Vibration Damage Criteria

Building Category	PPV (in/sec)
I. Reinforced-concrete, steel or timber (no plaster)	0.50
II. Engineered concrete and masonry (no plaster)	0.30
III. Non-engineered timber and masonry buildings	0.20
IV. Buildings extremely susceptible to vibration damage	0.12

Source: FTA, Transit Noise and Vibration Impact Assessment Manual, 2018.

Vibration Category 2—Residential; and Vibration Category 3—Institutional.[35] The FTA defines Category 1 as buildings where vibration would interfere with operations within the building, including vibration-sensitive research and manufacturing facilities, hospitals with vibration-sensitive equipment, and university research operations. Vibration-sensitive equipment includes, but is not limited to, electron microscopes, high-resolution lithographic equipment, and normal optical microscopes. Category 2 refers to all residential land uses and any buildings where people sleep, such as hotels and hospitals. Category 3 refers to institutional land uses such as schools, churches, other institutions, and quiet offices that do not have vibration-sensitive equipment but that still potentially involve activities that could be disturbed by vibration. The vibration thresholds associated with human annoyance for these three land-use categories are shown in Table IV.H-2 on page IV.H-13. No thresholds have been adopted or recommended for commercial or office uses.

(c) Occupational Safety and Health Act of 1970

Under the Occupational Safety and Health Act of 1970 (29 United States Code §1919 et seq.), the Occupational Safety and Health Administration (OSHA) has adopted regulations designed to protect workers against the effects of occupational noise exposure. These regulations list permissible noise level exposure as a function of the amount of time during which the worker is exposed. The regulations further specify a hearing conservation program that involves monitoring noise to which workers are exposed, ensuring that workers are made aware of overexposure to noise, and periodically testing the workers' hearing to detect any degradation.[36]

[35] *Federal Transit Administration, Transit Noise and Vibration Impact Assessment Manual, 2018, Table 6-1, p. 124.*

[36] *U.S. Department of Labor, OSH Act of 1970, www.osha.gov/laws-regs/oshact/completeoshact, accessed April 29, 2021.*

Table IV.H-2
FTA Vibration Impact Criteria for Human Annoyance

Land Use Category	Frequent Events[a]	Occasional Events[b]	Infrequent Events[c]
Category 1: Building where vibration would interfere with interior operations	65 VdB[d]	65 VdB[d]	65 VdB[d]
Category 2: Residences and buildings where people normally sleep	72 VdB	75 VdB	80 VdB
Category 3: Institutional land uses with primarily daytime uses	75 VdB	78 VdB	83 VdB

[a] *"Frequent Events" are defined as more than 70 vibration events of the same source per day.*

[b] *"Occasional Events" are defined as between 30 and 70 vibration events of the same source per day.*

[c] *"Infrequent Events" are defined as fewer than 30 vibration events of the same source per day.*

[d] *This criterion limit is based on the levels that are acceptable for most moderately sensitive equipment such as optical microscopes.*

Source: FTA, Transit Noise and Vibration Impact Assessment Manual, 2018.

(2) State

(a) Office of Planning and Research Guidelines for Noise Compatible Land Use

The State of California has not adopted statewide standards for environmental noise, but the Governor's Office of Planning and Research (OPR) has established guidelines for evaluating the compatibility of various land uses as a function of community noise exposure, as presented in Figure IV.H-2 on page IV.H-14.[37] The purpose of these guidelines is to maintain acceptable noise levels in a community setting for different land use types. Noise levels are divided into four general categories, which vary in range according to land use type: "normally acceptable," "conditionally acceptable," "normally unacceptable," and "clearly unacceptable." The City has developed its own compatibility guidelines in the Noise Element of the General Plan based in part on OPR Guidelines. California Government Code Section 65302 requires each county and city in the State to prepare and adopt a comprehensive long-range general plan for its physical development, with Section 65302(f) requiring a noise element to be included in the general plan. The noise element must: (1) identify and appraise noise problems in the community; (2) recognize Office of Noise Control guidelines; and (3) analyze and quantify current and projected noise levels.

[37] *State of California, Governor's Office of Planning and Research, General Plan 2017 Guidelines, p. 377.*

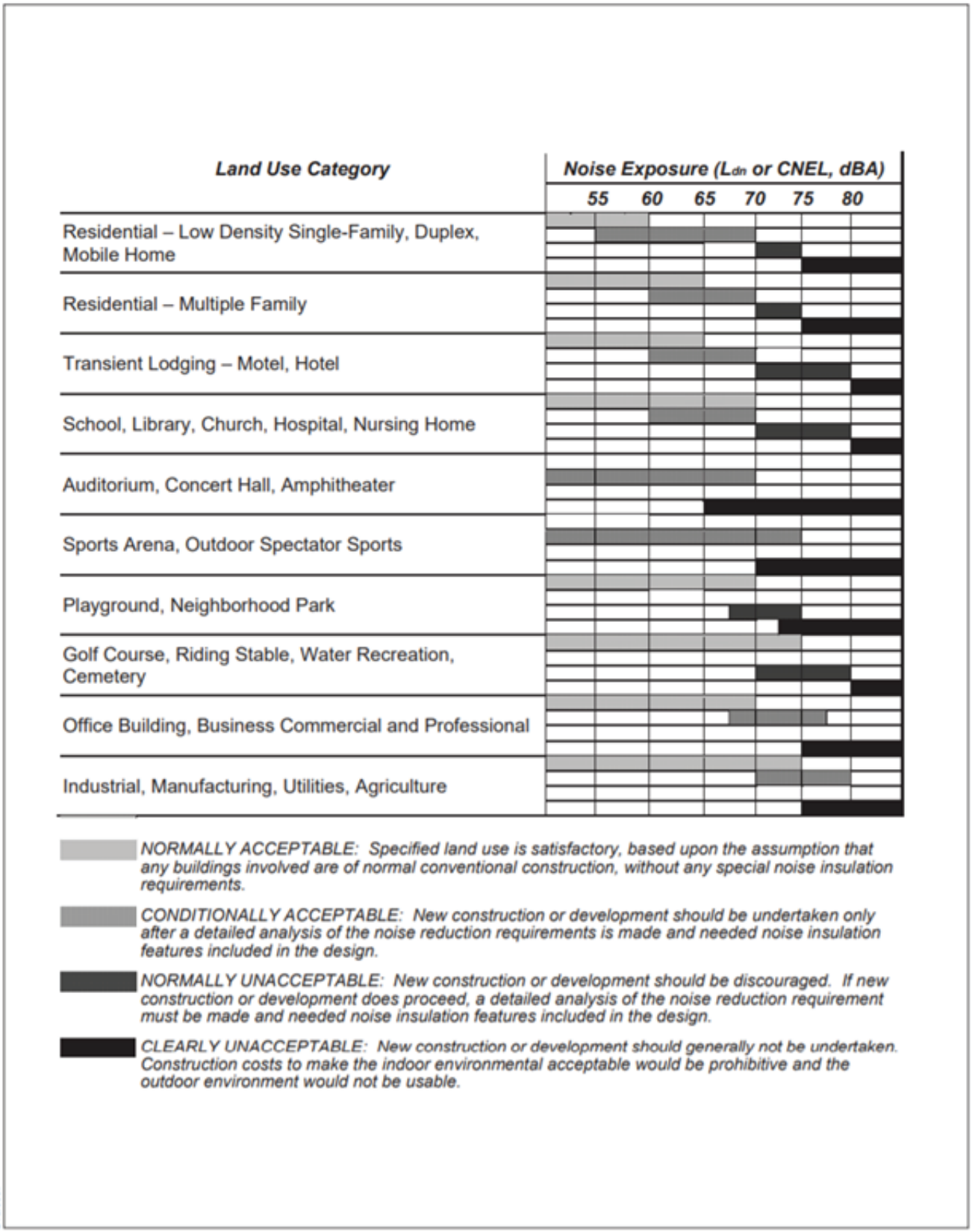

Figure IV.H-2
Guidelines for Noise Compatible Land Use

Source: State of California, Governor's Office of Planning and Research, General Plan Guidelines, 2003.

The State has also established noise insulation standards for new multi-family residential units, hotels, and motels. These requirements are collectively known as the California Noise Insulation Standards (Title 24, California Code of Regulations). The noise insulation standards set forth an interior standard of 45 dBA CNEL in any habitable room. The standards require an acoustical analysis demonstrating that dwelling units have been designed to meet this interior standard where such units are proposed in areas subject to exterior noise levels greater than 60 dBA CNEL. Title 24 standards are typically enforced by local jurisdictions through the building permit application process.

(b) Caltrans Vibration/Groundborne Noise Standards

The State of California has not adopted Statewide standards or regulations for evaluating vibration or groundborne noise impacts from land use development projects such as the proposed Project. Although the State has not adopted any vibration standard, Caltrans in its 2013 *Transportation and Construction Vibration Guidance Manual* recommends the following vibration thresholds for transportation projects shown in Table IV.H-3 on page IV.H-16.

(3) Local

(a) Los Angeles Municipal Code

The City of Los Angeles Noise Regulations are provided in Chapter XI of the Los Angeles Municipal Code (LAMC). LAMC Section 111.02 provides procedures and criteria for the measurement of the sound level of "offending" noise sources. In accordance with the LAMC, a noise source that causes a noise level increase of 5 dBA over the existing average ambient noise level as measured at an adjacent property line creates a noise violation. This standard applies to radios, television sets, air conditioning, refrigeration, heating, pumping and filtering equipment, powered equipment intended for repetitive use in residential areas, and motor vehicles driven on-site. To account for people's increased tolerance for short-duration noise events, the Noise Regulations provide a 5 dBA allowance for a noise source that causes noise lasting more than 5 but less than 15 minutes in any one-hour period, and an additional 5 dBA allowance (for a total of 10 dBA) for a noise source that causes noise lasting 5 minutes or less in any one-hour period.[38]

The LAMC provides that in cases where the actual ambient conditions are not known, the City's presumed daytime (7:00 A.M. to 10:00 P.M.) and nighttime (10:00 P.M. to 7:00 A.M.) minimum ambient noise levels as defined in LAMC Section 111.03 should be used. The presumed ambient noise levels for these areas where the actual ambient

[38] *LAMC, Chapter XI, Article I, Section 111.02-(b).*

Table IV.H-3
Guideline Vibration Damage Potential Threshold Criteria

Structure and Condition	Maximum PPV (inch/sec)	
	Transient Sources[a]	Continuous/Frequent Intermittent Sources[b]
Extremely Fragile Historic Buildings, Ruins, Ancient Monuments	0.12	0.08
Fragile Buildings	0.20	0.10
Historic and Some Old Buildings	0.50	0.25
Older Residential Structures	0.50	0.30
New Residential Structures	1.00	0.50
Modern Industrial/Commercial Buildings	2.00	0.50

[a] *Transient sources create a single, isolated vibration event, such as blasting or drop balls.*

[b] *Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.*

Source: Caltrans, Transportation and Construction Vibration Guidance Manual, 2013, Table 19.

conditions are not known as set forth in the LAMC Sections 111.03 are provided in Table IV.H-4 on page IV.H-17. For example, for residential-zoned areas, the presumed ambient noise level is 50 dBA during the daytime and 40 dBA during the nighttime.

LAMC Section 112.02 limits increases in noise levels from air conditioning, refrigeration, heating, pumping and filtering equipment. Such equipment may not be operated in such manner as to create any noise which would cause the noise level on the premises of any other occupied property, or, if a condominium, apartment house, duplex, or attached business, within any adjoining unit, to exceed the ambient noise level by more than 5 dB.

LAMC Section 112.05 sets a maximum noise level for construction equipment of 75 dBA at a distance of 50 feet when operated within 500 feet of a residential zone. Compliance with this standard shall not apply where compliance therewith is technically infeasible.[39] LAMC Section 41.40 prohibits construction between the hours of 9:00 P.M. and 7:00 A.M. Monday through Friday, 6:00 P.M. and 8:00 A.M. on Saturday, and at any time on Sunday (i.e., construction is allowed Monday through Friday between 7:00 A.M. to 9:00 P.M.; and Saturdays and National Holidays between 8:00 A.M. to 6:00 P.M.). In

[39] *In accordance with the City's Noise Ordinances, "technically feasible" means that the established noise limitations can be complied with at a project site, with the use of mufflers, shields, sound barriers, and/or other noise reduction devices or techniques employed during the operation of equipment.*

Table IV.H-4
City of Los Angeles Presumed Ambient Noise Levels

Zone	Daytime (7:00 A.M. to 10:00 P.M.) dBA (L_{eq})	Nighttime (10:00 P.M. to 7:00 A.M.) dBA (L_{eq})
Residential (A1, A2, RA, RE, RS, RD, RW1, RW2, R1, R2, R3, R4, and R5)	50	40
Commercial (P, PB, CR, C1, C1.5, C2, C4, C5, and CM)	60	55
Manufacturing (M1, MR1, and MR2)	60	55
Heavy Manufacturing (M2 and M3)	65	65

Source: LAMC Section 111.03.

general, the City's Department of Building and Safety enforces Noise Ordinance provisions relative to equipment and the Los Angeles Police Department (LAPD) enforces provisions relative to noise generated by people.

LAMC Section 113.01 prohibits collecting or disposing of rubbish or garbage, operating any refuse disposal truck, or collecting, loading, picking up, transferring, unloading, dumping, discarding, or disposing of any rubbish or garbage, as such terms are defined in LAMC Section 66.00, within 200 feet of any residential building between the hours of 9:00 P.M. and 6:00 A.M. of the following day, unless a permit therefore has been duly obtained beforehand from the Board of Police Commissioners.

Section 91.1207.14.2 prohibits interior noise levels attributable to exterior sources from exceeding 45 dBA in any habitable room. The noise metric shall be either the day-night average sound level (Ldn) or the CNEL, consistent with the noise element of the local general plan.

(b) City of Los Angeles General Plan Noise Element

The Noise Element of the City's General Plan policies include the CNEL guidelines for land use compatibility as shown in Table IV.H-5 on page IV.H-18 and includes a number of goals, objectives, and policies for land use planning purposes. The overall purpose of the Noise Element is to guide policymakers in making land use determinations and in preparing noise ordinances that would limit exposure of citizens to excessive noise levels.[40] The following policies and objectives from the Noise Element apply to the Project.

[40] *City of Los Angeles, General Plan Noise Element, Adopted February 3, 1999, pp. 1.1–2.4.*

Table IV.H-5
City of Los Angeles Guidelines for Noise Compatible Land Use

Land Use	Community Noise Exposure: Day-Night Average Exterior Sound Level (CNEL dB)						
	50	**55**	**60**	**65**	**70**	**75**	**80**
Residential Single-Family, Duplex, Mobile Home	A	C	C	C	N	U	U
Residential Multi-Family	A	A	C	C	N	U	U
Transient Lodging, Motel, Hotel	A	A	C	C	N	U	U
School, Library, Church, Hospital, Nursing Home	A	A	C	C	N	N	U
Auditoriums, Concert Hall, Amphitheater	C	C	C	C/N	U	U	U
Sports Arena, Outdoor Spectator Sports	C	C	C	C	C/U	U	U
Playgrounds, Neighborhood Park	A	A	A	A/N	N	N/U	U
Golf Course, Riding Stable, Water Recreation, Cemetery	A	A	A	A	N	A/N	U
Office Buildings, Business, Commercial, Professional	A	A	A	A/C	C	C/N	N
Agriculture, Industrial, Manufacturing, Utilities	A	A	A	A	A/C	C/N	N

A = Normally Acceptable: Specified land use is satisfactory, based upon assumption buildings involved are conventional construction, without any special noise insulation.

C = Conditionally Acceptable: New construction or development only after a detailed analysis of the noise mitigation is made and needed noise insulation features included in project design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.

N = Normally Unacceptable: New construction or development generally should be discouraged. A detailed analysis of the noise reduction requirements must be made and noise insulation features included in the design of a project.

U = Clearly Unacceptable: New construction or development generally should not be undertaken.

Source: California Department of Health Services (DHS).

Objective 2 (Non-Airport): Reduce or eliminate non-airport related intrusive noise, especially relative to noise sensitive uses.

Policy 2.2: Enforce and/or implement applicable city, state, and federal regulations intended to mitigate proposed noise producing activities, reduce intrusive noise and alleviate noise that is deemed a public nuisance.

Objective 3 (Land Use Development): Reduce or eliminate noise impact associated with proposed development of land and changes in land use.

Policy 3.1: Develop land use policies and programs that will reduce or eliminate potential and existing noise impacts.

Exhibit I of the Noise Element also contains guidelines for noise compatible land uses. Table IV.H-5 on page IV.H-18 summarizes these guidelines, which are based on OPR guidelines from 1990.

c. Existing Conditions

As discussed in Section II, Project Description, of this Draft EIR, the Project Site and Off-Site Metro Parking Areas are located in an urbanized area. The predominant source of noise in the vicinity is vehicular traffic on adjacent roadways. Other ambient noise sources include parking lots; public transit, including Metro (heavy rail, bus rapid transit, and local bus service), LADOT, Santa Clarita Transit, and Burbank Bus; and equipment used for landscaping activities.

(1) Noise-Sensitive Receptors

Some land uses are considered more sensitive to intrusive noise than others based on the types of activities typically involved at the receptor location. The *L.A. CEQA Thresholds Guide* states that noise-sensitive uses include residences, transient lodgings (hotels), schools, libraries, churches, hospitals, nursing homes, auditoriums, concert halls, amphitheaters, playgrounds, and parks.[41] Similarly, the City's General Plan Noise Element defines noise-sensitive land uses as single-family and multi-unit dwellings, long-term care facilities (including convalescent and retirement facilities), dormitories, motels, hotels, transient lodging, and other residential uses; houses of worship; hospitals; libraries; schools; auditoriums; concert halls; outdoor theaters; nature and wildlife preserves; and parks.[42] These uses are generally considered more sensitive to noise than commercial and industrial land uses.

Based on a review of the land uses in the vicinity at the time the Notice of Preparation (NOP) was issued, 13 noise receptor locations were selected to represent noise-sensitive uses within 500 feet of the Project Site and Off-Site Metro Parking Areas. These locations represent areas with land uses that could qualify as noise-sensitive uses according to the definition of such uses in the *L.A. CEQA Thresholds Guide* and the Noise Element. Although studio uses are not defined as noise sensitive receptors by the *L.A. CEQA Thresholds Guide*, potential noise impacts at the nearest recording studios, including The Watche Recording Studio (represented by receptor R9) and the AMP Rehearsal (represented by receptor R12), were also evaluated for informational purposes only. As discussed below, noise measurements were conducted at the 13 selected off-site locations around the Project Site and Off-Site Metro Parking Areas to establish baseline

[41] *City of Los Angeles, L.A. CEQA Thresholds Guide, p. I.1-3.*

[42] *Noise Element, City of Los Angeles General Plan, Chapter IV, p. 4-1.*

noise conditions in the vicinity. The monitoring locations essentially surround the Project Site and Off-Site Metro Parking Areas and thereby provide representative baseline measurements for uses in all directions. The monitoring locations provide an adequate basis to evaluate potential impacts at the monitoring locations and receptors beyond in the same direction. The noise measurement locations are shown in Figure IV.H-3 on page IV.H-21 and described in Table IV.H-6 on page IV.H-22. Figure IV.H-4 on page IV.H-23 provides the vibration receptor locations.

In addition, following the publication of the NOP, the Chandler Blvd. Tiny Home Village opened at 11471 Chandler Boulevard, west of the West Lot. This location is considered a residential use and is identified as R14 and included as a noise and vibration sensitive receptor throughout this analysis.

(2) Ambient Noise Levels

To establish baseline noise conditions, existing ambient noise levels were measured at the selected 14 off-site receptor locations (identified as R1 to R14) that are representative of sensitive uses in the vicinity of the Project Site. Baseline noise level measurements were conducted at receptor locations R1 to R13 on Tuesday, July 7 and Wednesday, July 8, 2020, using a Quest Technologies Model 2900 Integrating/Logging Sound Level Meter.[43] Noise levels at the R14 were taken on February 14, 2022. The existing ambient noise measurements are conservative, as the ambient noise generally due to local traffic is lower than usual due to the decrease in traffic volume associated with the COVID-19 pandemic. A 24-hour measurement was conducted at receptor location R1.[44] Two 15-minute measurements were conducted at the remaining 13 off-site receptor locations (R2 to R14) during daytime and nighttime hours. The daytime ambient noise levels were measured between 10:00 A.M. and 1:00 P.M., and the nighttime ambient noise levels were measured between 10:00 P.M. and 1:00 A.M. The ambient noise measurements were recorded in accordance with the City's standards, which require ambient noise to be measured over a period of at least 15 minutes.[45]

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[43] *This sound meter meets the minimum industry standard performance requirements for "Type 2" standard instruments as defined in the American National Standard Institute (ANSI) S1.4. It also meets the requirement specified in Section 111.01(l) of the LAMC that instruments be "Type S2A" standard instruments or better. The sound meter was calibrated and operated according to the manufacturer's written specifications.*

[44] *A 24-hour measurement was conducted at one receptor location to validate the noise measurements at other receptor locations.*

[45] *LAMC Section 111.01.*

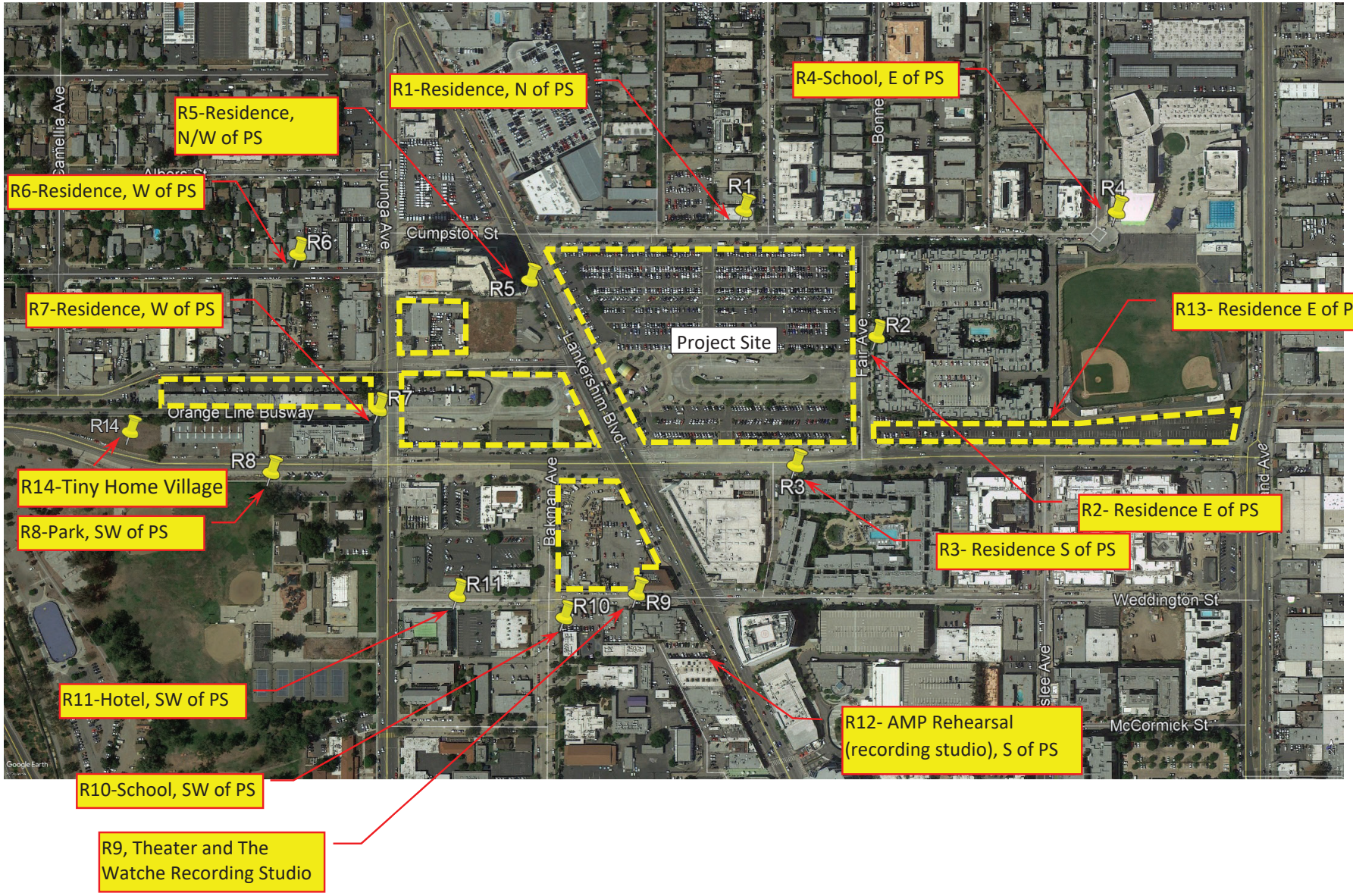

Figure IV.H-3
Noise Measurement Locations

Source: AES, 2020.

Table IV.H-6
Description of Noise Measurement Locations

Receptor Location	Description	Approximate Distance from Measurement Location to Nearest Project Site Boundary (feet)[a]	Nearest Noise-Sensitive Land Use(s)
R1	Residential use on north side of Cumpston Street, north of Project Site	75	Residential
R2	Residential use (The Gallery of NoHo Commons Apartments) on east side of Fair Avenue, east of Project Site	65	Residential
R3	Residential use (Lofts at NoHo Commons) on south side of Chandler Boulevard, south of Project Site	100	Residential
R4	School use (East Valley High School) on east side of Case Avenue, northeast of Project Site	600	School
R5	Residential use at southwest corner of Lankershim Boulevard and Cumpston Street, northwest of Project Site	95	Residential
R6	Residential use on Cumpston Street, west of Project Site	340	Residential
R7	Residential use at the northwest corner of Tujunga Avenue and Chandler Boulevard, west of Project Site	40	Residential
R8	Park use on the south side of Chandler Boulevard, southwest of Project Site	235	Park
R9	Theater use (El Portal Theater) and recording studio (The Watche Recording Studio) on the south side Weddington Street, south of Project Site.	60	Theater/Recording Studio[b]
R10	School use (Lankershim Elementary School) on east side of Bakman Avenue, south of Project Site	135	School
R11	Hotel use (Lexen Hotel) at the southeast corner of Tujunga Avenue and Weddington Street, south of Project Site	300	Hotel
R12	Recording studio (AMP Rehearsal) on the west side of Lankershim Boulevard, south of Project Site	310	Recording Studio[b]
R13	Residential use (The Gallery of NoHo Commons Apartments) on east side of Fair Avenue, east of Project Site	Adjacent to the East Lot	Residential
R14	Residential Use (Tiny Home Village) located at 11471 Chandler Boulevard, west of the Project Site	50	Residential

[a] *Distances are estimated using Google Earth.*

[b] *Studio uses are not considered noise sensitive uses by the L.A. CEQA Thresholds Guide. Therefore, the recording studios, The Watche Recording Studio and AMP Rehearsal, represented by receptor locations R9 and R12, respectively, are included in the noise analysis for informational purposes only.*

Source: Acoustical Engineering Services (AES), 2022. See Appendix L of this Draft EIR.

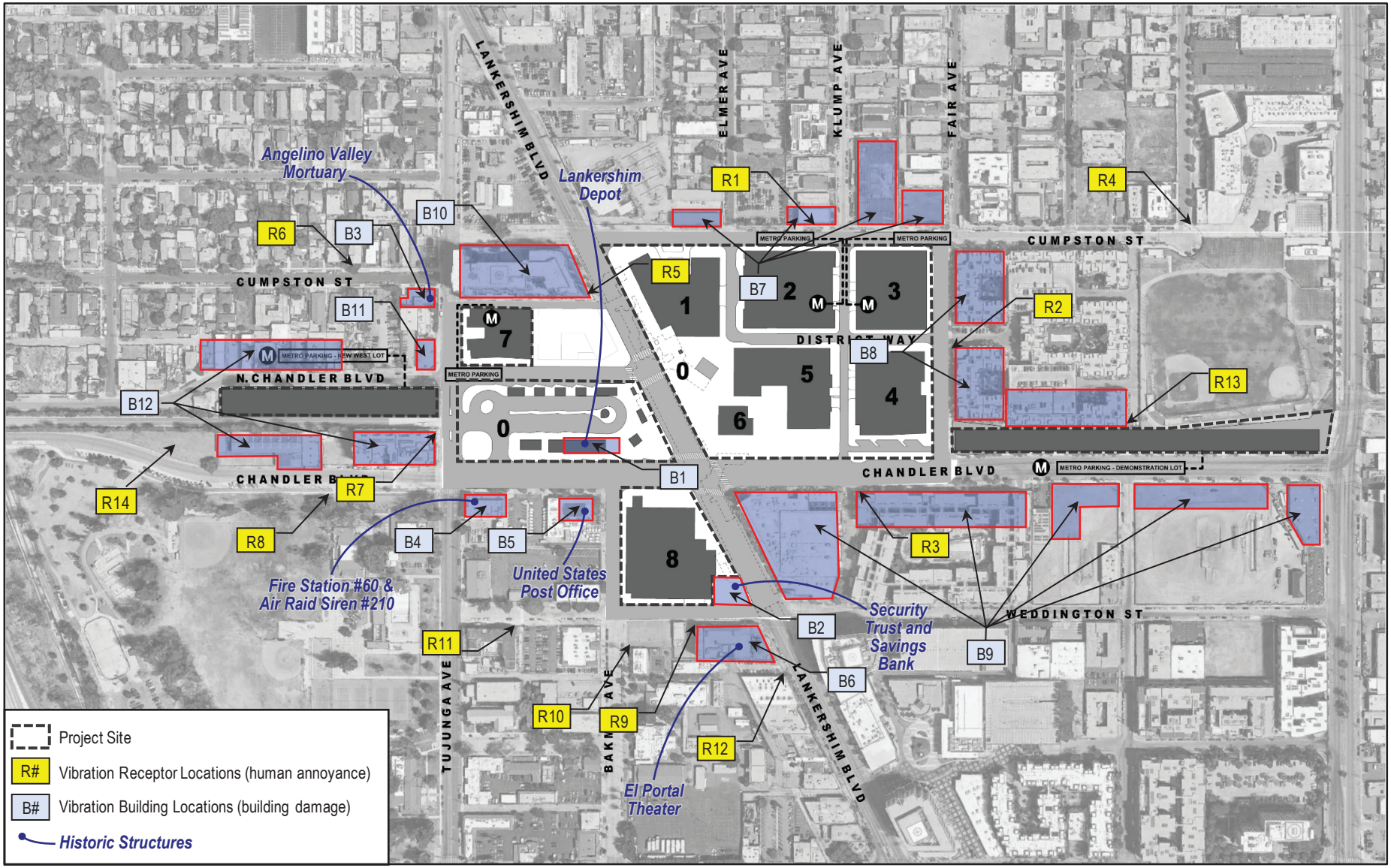

Figure IV.H-4
Vibration Receptor Locations

Source: AES, Eyestone Environmental, 2022.

Table IV.H-7 on page IV.H-25 provides a summary of the ambient noise measurements conducted at the off-site noise receptor locations. Based on field observations, the ambient noise at the Project measurement locations is dominated by local traffic, a parking lot, and to a lesser extent, helicopter flyovers and other typical urban noises. The ambient noise environment also includes airplane flyovers from Hollywood Burbank Airport, which is located less than two miles northeast of the Project Site. As indicated in Table IV.H-7, the existing daytime ambient noise levels at the off-site noise receptor locations ranged from 54.6 dBA (L_{eq}) at receptor location R6 to 68.3 dBA (L_{eq}) at receptor location R5. The measured nighttime ambient noise levels ranged from 49.0 dBA (L_{eq}) at receptor location R10 to 63.6 dBA (L_{eq}) at receptor location R5. Thus, the existing ambient noise levels at all off-site locations are above the City's presumed daytime and nighttime ambient noise levels of 50 dBA (L_{eq}) and 40 dBA (L_{eq}), respectively, for residential and hotel uses and/or properties zoned for residential and hotel uses (i.e., R1, R2, R3, R5, R6, R7, R11, R13, and R14), as presented above in Table IV.H-3 on page IV.H-16. Therefore, the measured ambient noise levels will be used as baseline for impacts determination.

In addition to the ambient noise measurements in the vicinity of the Project Site, the existing traffic noise on local roadways in the surrounding area was calculated to quantify the 24-hour CNEL noise levels using information provided in the Transportation Study prepared for the Project and included as Appendix R of this Draft EIR. Thirty-one roadway segments were selected for the existing off-site traffic noise analysis included in this section based on proximity to noise-sensitive uses along the roadway segments and potential increases in traffic volumes from the Project. Traffic noise levels were calculated using the Federal Highway Administration (FHWA) Traffic Noise Model (TNM) and traffic volume data from the Transportation Study prepared for the Project. The TNM calculates the hourly L_{eq} noise levels based on specific information including the hourly traffic volume, vehicle type mix, vehicle speed, and lateral distance between the noise receptor and the roadway. To derive the 24-hour CNEL levels, the hourly L_{eq} levels were calculated during daytime hours (7:00 A.M. to 7:00 P.M.), evening hours (7:00 P.M. to 10:00 P.M.), and nighttime hours (10:00 P.M. to 7:00 A.M.), with 5- and 10-dBA adjustments for the evening and nighttime hours, respectively. The TNM calculates the 24-hour CNEL noise levels based on specific information, including Average Daily Traffic (ADT); percentages of day, evening, and nighttime traffic volumes relative to ADT; vehicle speed; and distance between the noise receptor and the roadway. Vehicle mix/distribution information used in the noise calculations is shown in Table IV.H-8 on page IV.H-26.

Table IV.H-9 on page IV.H-27 provides the calculated CNEL for the analyzed local roadway segments based on existing traffic volumes. As shown therein, the existing CNEL due to surface street traffic volumes ranges from 57.0 dBA CNEL along Bonner Avenue (between Burbank Boulevard and Cumpston Street) to 69.9 dBA CNEL along Magnolia Boulevard (between SR-170 and Tujunga Avenue). Currently, the existing traffic-related

Table IV.H-7
Existing Ambient Noise Levels

Receptor Location	Noise-Sensitive Land Use	Measured Noise Levels, L_{eq} (dBA)		CNEL[a] (24-hour)
		Daytime Hours[b] (7:00 A.M.–10:00 P.M.)	Nighttime Hours[b] (10:00 P.M.–7:00 A.M.)	
R1	Residential	62.1[c]	57.3[c]	65.1
R2	Residential	61.6	56.4	62.7
R3	Residential	64.6	57.8	64.9
R4	School	60.4	50.2	59.4
R5	Residential	68.3	63.6	69.7
R6	Residential	54.6	54.4	59.1
R7	Residential	67.2	63.0	71.5
R8	Park	62.9	60.5	65.7
R9	Theater/Recording Studio	58.3	54.4	60.1
R10	School	57.0	49.0	56.7
R11	Hotel	58.2	57.7	62.5
R12	Recording Studio	68.1	61.9	68.6
R13	Residential	61.1	52.4	60.6
R14	Residential	61.4	58.8	64.1

[a] *Estimated based on short-term (15-minute) noise measurement based on FTA procedures.*

[b] *The range of hours for the daytime and nighttime periods shown herein are defined by the LAMC. For receptor locations R2 through R6, daytime ambient noise levels were measured between 10:00 A.M. and 1:00 P.M., and the nighttime ambient noise levels were measured between 10:00 P.M. and 1:00 A.M.*

[c] *Levels shown for R1 represent the average for the entire daytime and nighttime periods.*

Source: AES, 2022. See Appendix L of this Draft EIR.

noise levels along the analyzed roadway segments fall within the conditionally acceptable noise levels for residential uses (i.e., between 55 and 70 dBA CNEL).

(3) Existing Ground-Borne Vibration Levels

Based on field observations, the primary source of existing ground-borne vibration in the vicinity is vehicular travel (e.g., standard cars, refuse trucks, delivery trucks, construction trucks, school buses, and buses) on local roadways. In addition, operation of the Metro B (Red) Line trains along Lankershim Boulevard (underneath the Project Site) also generates existing ground-borne vibration in the vicinity, based on the site measurements as discussed below. According to the FTA technical study "Federal Transit Administration: Transit Noise and Vibration Impacts Assessments," typical road traffic-induced vibration levels are unlikely to be perceptible by people. Specifically, the FTA

Table IV.H-8
Vehicle Mix for Traffic Noise Model

Vehicle Type	Percent of Average Daily Traffic (ADT)			Total Percent of ADT per Vehicle Type
	Daytime Hours (7 A.M.–7 P.M.)	Evening Hours (7 P.M.–10 P.M.)	Nighttime Hours (10 P.M.–7 A.M.)	
Automobile	77.6	9.7	9.7	97.0
Medium Truck[a]	1.6	0.2	0.2	2.0
Heavy Truck[b]	0.8	0.1	0.1	1.0
Total	80.0	10.0	10.0	100.0

[a] *Medium Truck—Trucks with 2 axles.*

[b] *Heavy Truck—Trucks with 3 or more axles.*

Source: AES, 2020. See Appendix L of this Draft EIR.

study reports that "[i]t is unusual for vibration from sources such as buses and trucks to be perceptible, even in locations close to major roads."[46] Trucks and buses typically generate ground-borne vibration velocity levels of around 63 VdB (at 50 feet distance), and these levels could reach 72 VdB when trucks and buses pass over bumps in the road.

Ground vibration measurements were conducted at three locations at the Project Site, as shown in Figure IV.H-3 on page IV.H-21, to quantify the existing ambient vibration environment, including the Metro B (Red) Line operation. Ground vibration levels were recorded on July 7, 2020, between 1:00 P.M. and 3:30 P.M. Vibration measurements were conducted using a Larson-Davis Model 2800 Signal Analyzer, a Bruel & Kjaer Model 4370 accelerometer (vibration sensor), and a Bruel & Kjaer Model 2635 charge amplifier (signal conditioner). The accelerometer was affixed to the ground surface via a magnet on top of a 25-pound steel plate. Ground vibration levels were recorded for 30 minutes at each receptor location. Table IV.H-10 on page IV.H-29 presents the measured ground vibration levels at the Project Site. As indicated in Table IV.H-10, the measured ambient vibration levels at the ground surface level ranged from 41.5 VdB (minimum recorded level) at location V3 to 71.5 VdB (maximum recorded level) at location V3. Based on the Metro B (Red) Line operation schedule, approximately four subway trains passed by during the 30-minute measurement period at each receptor location. The ground vibration levels due to the Metro subway trains varied from 57 VdB at receptor location V1 (Block 1), 62.5 VdB at receptor location V2 (Project Block 5/6), and 71.5 VdB at receptor location V3 (Block 8).

[46] *FTA, "Transit Noise and Vibration Impact Assessment," Page 112, September 2018.*

Table IV.H-9
Existing Roadway Traffic Noise Levels

Roadway Segment	Adjacent Land Use	Approximate Distance to Roadway Center Line (feet)	Calculated Traffic Noise Levels, CNEL (dBA)[a]	Noise-Sensitive Land Uses	Existing Noise Exposure Compatibility Category[b]
Tujunga Avenue					
– Between Burbank Blvd. and Cumpston St.	Commercial	35	63.3	No	Normally Acceptable
– Between Cumpston St. and Chandler Blvd.	Residential	35	65.3	Yes	Conditionally Acceptable
– Between Chandler Blvd. and Magnolia St.	Residential, Hotel, School, Religious, Park	35	67.0	Yes	Conditionally Acceptable
– Between Magnolia St. and Camarillo St.	Residential, Park	35	69.4	Yes	Conditionally Acceptable
Lankershim Boulevard					
– Between Burbank Blvd. and Cumpston St.	Commercial	45	68.7	No	Conditionally Acceptable
– Between Cumpston St. and Chandler Blvd.	Residential	45	68.2	Yes	Conditionally Acceptable
– Between Chandler Blvd. and Magnolia St.	Theater, Studio	45	67.7	Yes	Conditionally Acceptable
– Between Magnolia St. and Camarillo St.	Residential, Religious	45	68.1	Yes	Conditionally Acceptable
Vineland Avenue					
– Between Burbank Blvd. and Chandler Blvd.	School	40	69.6	Yes	Conditionally Acceptable
– Between Chandler Blvd. and Magnolia St.	Residential, Studio	40	69.5	Yes	Conditionally Acceptable
– Between Magnolia St. and Camarillo St.	Residential, Religious	40	69.1	Yes	Conditionally Acceptable
Fair Avenue					
– Between Cumpston St. and Chandler Blvd.	Residential	30	63.4	Yes	Conditionally Acceptable
Colfax Avenue					
– Between Burbank Blvd. and Chandler Blvd.	Residential	40	67.0	Yes	Conditionally Acceptable
Elmer Avenue					
– Between Burbank Blvd. and Cumpston St.	Residential	35	59.0	Yes	Conditionally Acceptable
Klump Avenue					
– Between Burbank Blvd. and Cumpston St.	Residential	35	59.2	Yes	Conditionally Acceptable
Bonner Avenue					
– Between Burbank Blvd. and Cumpston St.	Residential	30	57.0	Yes	Conditionally Acceptable

Table IV.H-9 (Continued)
Existing Roadway Traffic Noise Levels

Roadway Segment	Adjacent Land Use	Approximate Distance to Roadway Center Line (feet)	Calculated Traffic Noise Levels, CNEL (dBA)[a]	Noise-Sensitive Land Uses	Existing Noise Exposure Compatibility Category[b]
Cumpston Avenue					
– Between Camellia Ave. and Tujunga Ave.	Residential	25	59.4	Yes	Conditionally Acceptable
– Between Tujunga Ave. and Lankershim Blvd.	Residential	25	63.0	Yes	Conditionally Acceptable
– Between Lankershim Blvd. and Fair Ave.	Residential	25	66.7	Yes	Conditionally Acceptable
– Between Fair Ave. and Case Ave.	Residential	25	64.8	Yes	Conditionally Acceptable
Burbank Boulevard					
– Between Colfax Ave. and Lankershim Blvd.	Residential, Religious	45	69.7	Yes	Conditionally Acceptable
– Between Lankershim Blvd. and Vineland Ave.	Residential, Hotel	45	67.7	Yes	Conditionally Acceptable
Chandler Boulevard					
– Between Colfax Ave. and Tujunga Ave.	Residential	40	67.3	Yes	Conditionally Acceptable
– Between Tujunga Ave. and Lankershim Blvd.	Commercial	30	67.8	No	Conditionally Acceptable
– Between Lankershim Blvd. and Vineland Ave.	Residential, School	30	67.7	Yes	Conditionally Acceptable
Weddington Street					
– Between Tujunga Ave. and Bakman Ave.	Hotel, Religious	25	61.0	Yes	Conditionally Acceptable
– Between Bakman Ave. and Lankershim Blvd.	Theater, Studio	25	61.8	Yes	Conditionally Acceptable
– Between Lankershim Blvd. and Blakeslee Ave.	Residential, Studio	25	64.5	Yes	Conditionally Acceptable
Magnolia Boulevard					
– Between CA-170. and Tujunga Ave.	Park	45	69.9	Yes	Conditionally Acceptable
– Between Tujunga Ave. and Lankershim Blvd.	School	45	69.2	Yes	Conditionally Acceptable
– Between Lankershim Blvd. and Vineland Ave.	Residential, Theater	45	68.4	Yes	Conditionally Acceptable

[a] *Detailed calculation worksheets are included in Appendix L of this Draft EIR.*

[b] *Noise compatibility is based on the most stringent land use, per City's land use compatibility as provided in Table IV.H-2 on page IV.H-13.*

Source: AES, 2020.

Table IV.H-10
Existing Vibration Levels

Measurement Locations	Measured Ground Vibration Levels, VdB	
	Minimum Levels	Maximum Levels[a]
V1 – Project Block 1	43.0	57.0
V2 – Project Block 5/6	45.0	62.5
V3 – Project Block 8	41.5	71.5

[a] *Due to Metro subway trains.*
Source: AES, 2020

Per the FTA, 75 VdB is the dividing line between barely perceptible (with regards to ground vibration) and distinctly perceptible.[47]

3. Project Impacts

a. Thresholds of Significance

In accordance with the State CEQA Guidelines Appendix G, the Project would have a significant impact related to noise if it would result in the:

Threshold (a): Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Threshold (b): Generation of excessive groundborne vibration or groundborne noise levels?

Threshold (c): 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, expose people residing or working in the project area to excessive noise levels?

For this analysis, the Appendix G Thresholds listed above are relied upon. The analysis utilizes factors and considerations identified in the City's 2006 *L.A. CEQA*

[47] *FTA, Transit Noise and Vibration Impact Assessment, September 2018, Table 5-5.*

Thresholds Guide, as appropriate, to assist in answering the Appendix G Threshold questions.

The *L.A. CEQA Thresholds Guide* identifies the following criteria to evaluate noise impacts:

(1) Construction Noise

A project would normally have a significant impact on noise levels from construction if:

- Construction activities lasting more than one day would exceed existing ambient exterior sound levels by 10 dBA (hourly L_{eq}) or more at a noise-sensitive use;
- Construction activities lasting more than 10 days in a three-month period would exceed existing ambient exterior noise levels by 5 dBA (hourly L_{eq}) or more at a noise-sensitive use; or
- Construction activities of any duration would exceed the ambient noise level by 5 dBA (hourly L_{eq}) at a noise-sensitive use between the hours of 9:00 P.M. and 7:00 A.M. Monday through Friday, before 8:00 A.M. or after 6:00 P.M. on Saturday, or at any time on Sunday.

As discussed in Section II, Project Description, of this Draft EIR, construction of the Project is anticipated to begin in 2022 and be completed in 2037. Therefore, since construction activities would occur over a period longer than 10 days for all phases, the corresponding significance criteria used in the construction noise analysis presented in this section of the Draft EIR are the increase in the ambient exterior noise levels by 5 dBA (hourly L_{eq}) or more at a noise-sensitive use.

(2) Operational Noise

A project would normally have a significant impact on noise levels from operation if:

- The Project causes the ambient noise levels measured at the property line of affected noise-sensitive uses to increase by 3 dBA in CNEL to or within the "normally unacceptable" or "clearly unacceptable" category (see Table IV.H-2 on page IV.H-13 for a description of these categories); or
- The Project causes the ambient noise levels measured at the property line of affected noise-sensitive uses to increase by 5 dBA in CNEL or greater; or
- Project-related operational on-site (i.e., non-roadway) noise sources, such as outdoor building mechanical/electrical equipment, outdoor activities, loading,

trash compactor, or parking facilities, increase the ambient noise level (hourly L_{eq}) at noise-sensitive uses by 5 dBA.

The significance criteria used in the noise analysis for on-site operations presented below are an increase in the ambient noise level of 5 dBA (hourly L_{eq}) at the noise-sensitive uses, in accordance with the LAMC. The LAMC does not apply to off-site traffic (i.e., vehicles traveling on public roadways). Therefore, based on the *L.A. CEQA Thresholds Guide*, the significance criteria for off-site traffic noise associated with Project operations are an increase in the ambient noise level by 3 dBA or 5 dBA in CNEL (depending on the land use category) at noise-sensitive uses. In addition, the significance for composite noise levels (on-site and off-site sources) is also based on the *L.A. CEQA Thresholds Guide*, which is an increase in the ambient noise level of 3 dBA or 5 dBA in CNEL (depending on the land use category) for the Project's composite noise (both Project-related on-site and off-site sources) at noise-sensitive uses.

(3) FTA Ground-Borne Vibration Standards and Guidelines

The City currently does not have significance criteria to assess vibration impacts during construction. Thus, FTA guidelines set forth in FTA's *Transit Noise and Vibration Assessment*, dated September 2018, are used to evaluate potential impacts related to construction vibration for both potential building damage and human annoyance. The FTA guidelines regarding construction vibration are the most current guidelines and are commonly used in evaluating vibration impacts.

Based on this FTA guidance, impacts relative to ground-borne vibration associated with potential building damage would be considered significant if any of the following future events were to occur:

- Project construction activities cause ground-borne vibration levels to exceed 0.5 PPV at the nearest off-site reinforced-concrete, steel, or timber building.
- Project construction activities cause ground-borne vibration levels to exceed 0.3 PPV at the nearest off-site engineered concrete and masonry building.
- Project construction activities cause ground-borne vibration levels to exceed 0.2 PPV at the nearest off-site non-engineered timber and masonry building.
- Project construction activities cause ground-borne vibration levels to exceed 0.12 PPV at buildings extremely susceptible to vibration damage, such as historic buildings.

Based on FTA guidance, construction vibration impacts associated with human annoyance would be significant if the following were to occur (applicable to frequent events; 70 or more vibration events per day):

- Project construction activities cause ground-borne vibration levels to exceed 72 VdB at off-site residential and hotel uses.
- Project construction activities cause ground-borne vibration levels to exceed 75 VdB at off-site school uses.
- Project construction activities cause ground-borne vibration levels to exceed 65 VdB at off-site recording studios.

b. Methodology

(1) On-Site Construction Activities

Noise impacts due to on-site construction activities associated with the Project were evaluated by calculating the construction-related noise levels at representative sensitive receptor locations and comparing these estimated noise levels to the existing ambient noise levels (i.e., noise levels without construction noise from the Project). Construction noise associated with the Project was analyzed based on the Project's potential construction equipment inventory, construction durations, and construction schedule. The construction noise model for the Project is based on construction equipment noise levels as published by the FHWA's "Roadway Construction Noise Model (FHWA 2006)."[48] The ambient noise levels at surrounding sensitive receptor locations were based on field measurement data (see Table IV.H-7 on page IV.H-25). The construction noise levels were then calculated for sensitive receptor locations based on the standard point source noise-distance attenuation factor of 6.0 dBA for each doubling of distance (as described above in Subsection 2.a(1)(b), Outdoor Sound Propagation). Additional noise attenuation was assigned to receptor locations where the line-of-sight to the Project Site was interrupted by the presence of intervening structures.

(2) Off-Site Construction Haul Trucks

Off-site construction noise impacts from haul trucks associated with the Project were analyzed using the FHWA's TNM. The TNM is the current Caltrans standard computer noise model for traffic noise studies. The model allows for the input of roadway, noise

[48] *The reference noise levels for construction equipment from the FHWA are based on measurements of newer construction equipment (published in 2006), rather than the noise levels from the Environmental Protection Agency report referenced in the L.A. CEQA Thresholds Guide (published in 1971).*

receivers, and sound barriers, if applicable. The construction-related off-site truck volumes were obtained from the Transportation Study prepared for the Project, which is included in Appendix R of this Draft EIR. The TNM calculates the hourly L_{eq} noise levels generated by construction-related haul trucks. Noise impacts were determined by comparing the predicted noise level plus ambient with that of the existing ambient noise levels along the Project's anticipated truck route(s).

(3) On-Site Stationary Noise Sources (Operation)

On-site stationary point-source noise impacts were evaluated by (1) identifying the noise levels that would be generated by the Project's stationary noise sources, such as rooftop mechanical equipment, outdoor activities (e.g., use of the outdoor courtyard), parking facilities, and trash compactor; (2) calculating the noise level from each noise source at surrounding sensitive receptor property line locations; and (3) comparing such noise levels to ambient noise levels to determine significance. The on-site stationary noise sources were calculated using the SoundPLAN (version 8.2) computer noise prediction model.[49] SoundPLAN is widely used by acoustical engineers as a noise modeling tool for environmental noise analysis.

(4) Off-Site Roadway Noise (Operation)

As discussed in Subsection 2.c, Existing Conditions, above, off-site roadway noise was analyzed using the FHWA's TNM and traffic data from the Project's Transportation Study, included as Appendix R of this Draft EIR. Roadway noise levels were calculated for various roadway segments, based on the intersection traffic volumes. Roadway noise conditions with implementation of the Project were compared to noise levels that would occur without the Project to determine Project-related noise impacts for operational off-site roadway noise.

(5) Construction Vibration

Ground-borne vibration impacts due to the Project's construction activities were evaluated by identifying potential vibration sources (i.e., construction equipment), estimating the vibration levels at the potentially affected receptor, and comparing the Project's activities to the applicable vibration significance thresholds, as described below. Vibration levels were calculated based on the FTA published standard vibration velocities for various construction equipment operations. In addition, vibration impacts are evaluated based on maximum peak vibration levels generated by each type of construction equipment, per FTA guidance.

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[49] *SoundPLAN GmbH, SoundPLAN version 8.2, 2020.*

(6) Operational Vibration

The primary source of vibration related to operation of the Project would include vehicle circulation within the proposed subterranean parking garage and off-site vehicular trips. However, as discussed above, vehicular-induced vibration is unlikely to be perceptible to people. The Project would also include typical commercial-grade stationary mechanical equipment, such as air condenser units (mounted at the roof level), that would include vibration-attenuation mounts to reduce the vibration transmission. The Project does not include land uses that would generate high levels of vibration. In addition, ground-borne vibration attenuates rapidly as a function of distance from the vibration source.

c. Project Design Features

The following project design features are proposed with regard to noise and vibration:

Project Design Feature NOI-PDF-1: During plan check for each phase of the Project, the contractor will provide a statement to the City indicating their power construction equipment (including combustion engines), fixed or mobile, will be equipped with state-of-the-art noise shielding and muffling devices (consistent with manufacturers' standards). The statement will further indicate that the equipment will be properly maintained to assure that no additional noise, due to worn or improperly maintained parts, would be generated.

Project Design Feature NOI-PDF-2: Project construction will not include the use of driven (impact) pile systems.

Project Design Feature NOI-PDF-3: All outdoor mounted mechanical equipment will be screened from off-site noise-sensitive receptors. The equipment screen will be impermeable (i.e., solid material with minimum weight of 2 pounds per square feet) and break the line-of-sight from the equipment to the off-site noise-sensitive receptors.

Project Design Feature NOI-PDF-4: All loading docks will be acoustically screened from off-site noise-sensitive receptors.

Project Design Feature NOI-PDF-5: Outdoor amplified sound systems, if any, will be designed so as not to exceed the maximum noise level of 75 dBA (L_{eq-1hr}) at a distance of 25 feet from the amplified speaker sound systems at Block 1 (Level 4 Amenity), Block 2 (Level 4 Amenity), Block 3 (Level 5 and Level 6 Amenity), Block 4 (Level 3 Pool Deck and Courtyard and Level 6 Amenity), Block 5/6 (Level 6 Courtyard); and 80 dBA (L_{eq-1hr}) at a distance of 25 feet at Block 1 (Roof Level Amenity), Block 3 (Level 2 Courtyard), Block 5/6 (Level 1 NoHo Square, Level 2 Common Deck), Block 7 (Level 2 Courtyard and

Level 5 Amenity), and Block 8 (Level 7 Courtyard). A qualified noise consultant will provide written documentation, prior to issuance of a certificate of occupancy, that the design of the system complies with this maximum noise level.

Project Design Feature NOI-PDF-6: The temporary/touring amplified sound system for special events (such as movies or music performances) at the NoHo Square will be designed, using a line-array speaker system, so as not to exceed a maximum noise level of 90 dBA (L_{eq-1hr}) at a distance of 50 feet from the amplified sound systems.

d. Analysis of Project Impacts

Threshold (a): Would the Project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

(1) Impact Analysis

(a) Construction Noise

Project construction is anticipated to take place in multiple, potentially overlapping phases for the various blocks and Off-Site Metro Parking Areas (i.e., Blocks 0 through 8, West Lot, and East Lot parking structures) between 2022 and 2037. Construction of the Project would commence with demolition of the existing structures to be removed, which would be followed by grading and excavation for the subterranean levels and footings for each phase. Building foundations would then be laid, followed by building construction, paving/concrete installation, and landscape installation. It is estimated that approximately 587,300 net cubic yards of export would be hauled from the Project Site.

Construction delivery/haul trucks would travel on approved truck routes between the Project Site and the Hollywood Freeway (SR-170) under Haul Route Option A or the Ventura Freeway (SR-134) under Haul Route Option B. The local roadways (between the Project Site and the freeway) that would be used by the Project construction trucks would include Burbank Boulevard, Lankershim Boulevard, Cumpston Street, Chandler Boulevard, Fair Avenue, Vineland Avenue, Tujunga Avenue, Colfax Avenue, Magnolia Boulevard, and Riverside Drive. Maps of the proposed haul routes are included in Appendix L of this Draft EIR.

(i) On-Site Construction Noise

Noise impacts from Project-related construction activities occurring within or adjacent to the Project Site and Off-Site Metro Parking Areas would be a function of the

noise generated by construction equipment, the location of the equipment, the timing and duration of the noise-generating construction activities, and the relative distance to noise-sensitive receptors. Construction activities for the Project would generally include demolition, site grading and excavation, building construction (structure), and finishes. Each stage of construction would involve the use of various types of construction equipment and would, therefore, have its own distinct noise characteristics. Demolition generally involves the use of backhoes, front-end loaders, and heavy-duty trucks. Grading and excavation typically require the use of earth-moving equipment, such as excavators, front-end loaders, and heavy-duty trucks. Building construction typically involves the use of cranes, forklifts, concrete trucks, pumps, and delivery trucks. Noise from construction equipment would generate both steady-state and episodic noise that could be heard within and adjacent to the Project Site.

As provided in Project Design Feature NOI-PDF-1 above, construction equipment would have proper noise muffling devices per the manufacturer's standards. Individual pieces of construction equipment anticipated to be used during construction of the Project could produce maximum noise levels (L_{max}) of 74 dBA to 90 dBA at a reference distance of 50 feet from the noise source, as shown in Table IV.H-11 on page IV.H-37. These maximum noise levels would occur when equipment is operating under full power conditions (i.e., the equipment engine at maximum speed). However, equipment used on construction sites often operates under less than full power conditions, or part power. To more accurately characterize construction-period noise levels, the average (hourly L_{eq}) noise level associated with each construction phase is calculated based on the quantity, type, and usage factors for each type of equipment that would be used during each construction phase.[50] These noise levels are typically associated with multiple pieces of equipment not operating on full power, simultaneously.

Table IV.H-12 on page IV.H-38 provides the estimated construction noise levels for various construction phases for the various Blocks at the 14 off-site noise-sensitive receptor locations. To present a conservative impact analysis, the estimated noise levels were calculated for a scenario in which all pieces of construction equipment were assumed to operate simultaneously and be located at the construction area nearest to the affected receptors. These assumptions represent the worst-case noise scenario because construction activities would typically be spread out throughout the Project Site and Off-Site Metro Parking Areas, and, thus, some equipment would be farther away from the affected receptors. In addition, the noise modeling assumes that construction noise is constant,

[50] *Pursuant to the FHWA Roadway Construction Noise Model User's Guide, 2006, the usage factor is the percentage of time during a construction noise operation that a piece of construction is operating at full power.*

Table IV.H-11
Construction Equipment Noise Levels

Equipment	Estimated Usage Factor[a] (%)	Typical Noise Level at 50 feet from Equipment, dBA (L_{max})
Air Compressor	40	78
Cement and Mortar Mixer	50	80
Concrete Mixer Truck	40	79
Concrete Saw	20	90
Crane	16	81
Drill Rig	20	84
Forklift	20	75
Generator	50	81
Grader	40	85
Dump/Haul Truck	40	76
Excavator	40	81
Paver	50	77
Pump	50	81
Roller	20	80
Rubber Tired Loader	40	79
Tractor/Loader/Backhoe	40	80
Delivery Truck	40	74
Welders	40	74

[a] *Usage factor represents the percentage of time the equipment would be operating at full speed.*
Source: FHWA Roadway Construction Noise Model User's Guide, 2006.

when, in fact, construction activities and associated noise levels are periodic and fluctuate based on the construction activities.

As discussed above, since construction activities would occur over a period longer than 10 days for all phases combined, the corresponding significance criteria used in the construction noise analysis are when the construction-related noise exceeds the ambient L_{eq} noise level of 5 dBA at a noise-sensitive use. As indicated in Table IV.H-12 on page IV.H-38, the estimated noise levels at all receptor locations, with the exception of receptor location R2, would exceed the significance criteria during some, if not most, phases of construction and depending on the blocks being developed. The estimated construction-related noise would exceed the significance threshold by up to 23.9 dBA at receptor location R9 (Block 8), without implementation of mitigation.

Table IV.H-12
Construction Noise Impacts

Off-Site Receptor Location	Approximate Distance from Receptor to Project Construction Area (feet)	Estimated Construction Noise Levels by Construction Phases (L_{eq} (dBA))				Existing Daytime Ambient Noise Levels (L_{eq} (dBA))	Significance Criteria (L_{eq} (dBA))[a]	Maximum Noise Exceedance above the Significance Criteria (L_{eq} (dBA))	Significant Impact Without Mitigation?
		Demo	Grading	Structure	Finishes				
Block 0									
R1	700	63.7	68.3	64.0	65.0	62.1	67.1	1.2	**Yes**
R2	870	61.9	66.5	62.2	63.1	61.6	66.6	0.0	No
R3	545	65.8	70.3	66.0	67.1	64.6	69.6	0.7	**Yes**
R4	1,680	46.3	51.1	46.8	47.5	60.4	65.4	0.0	No
R5	250	72.1	76.1	71.8	73.6	68.3	73.3	2.8	**Yes**
R6	465	57.1	61.5	57.2	58.4	54.6	59.6	1.9	**Yes**
R7	65	82.6	85.0	80.2	84.6	67.2	72.2	12.8	**Yes**
R8	435	67.7	72.0	67.7	69.0	62.9	67.9	4.1	**Yes**
R9	505	66.4	70.8	66.6	67.7	58.3	63.3	7.5	**Yes**
R10	560	65.6	70.0	65.7	66.9	57.0	62.0	8.0	**Yes**
R11	490	66.7	71.1	66.8	68.0	58.2	63.2	7.9	**Yes**
R12	750	53.2	57.7	53.4	54.4	68.1	73.1	0.0	No
R13	1,360	58.1	62.9	58.6	59.3	67.0	72.0	0.0	No
R14	730	58.4	62.9	58.6	59.6	61.4	66.4	0.0	No
Block 1									
R1	285	71.2	74.5	73.3	73.4	62.1	67.1	7.4	**Yes**
R2	660	64.3	68.0	66.7	66.9	61.6	66.6	1.4	**Yes**
R3	600	65.1	68.8	67.5	67.7	64.6	69.6	0.0	No
R4	1,370	58.2	62.0	60.6	61.0	60.4	65.4	0.0	No
R5	95	79.7	81.9	81.2	81.1	68.3	73.3	8.6	**Yes**
R6	760	53.1	56.9	55.5	55.8	54.6	59.6	0.0	No
R7	665	64.2	67.9	66.6	66.9	67.2	72.2	0.0	No
R8	1,065	55.3	59.1	57.7	58.1	62.9	67.9	0.0	No
R9	830	62.4	66.2	64.8	65.1	58.3	63.3	2.9	**Yes**
R10	920	61.5	65.3	64.0	64.2	57.0	62.0	3.3	**Yes**
R11	895	56.8	60.5	59.2	59.5	58.2	63.2	0.0	No
R12	1,020	60.7	64.5	63.1	63.4	68.1	73.1	0.0	No

Table IV.H-12 (Continued)
Construction Noise Impacts

Off-Site Receptor Location	Approximate Distance from Receptor to Project Construction Area (feet)	Estimated Construction Noise Levels by Construction Phases (L_{eq} (dBA))				Existing Daytime Ambient Noise Levels (L_{eq} (dBA))	Significance Criteria (L_{eq} (dBA))[a]	Maximum Noise Exceedance above the Significance Criteria (L_{eq} (dBA))	Significant Impact Without Mitigation?
		Demo	Grading	Structure	Finishes				
R13	1,230	49.1	52.9	51.5	51.9	67.0	72.0	0.0	No
R14	1,300	53.6	57.5	56.1	56.4	61.4	66.4	0.0	No
Block 2									
R1	75	81.5	83.1	82.5	82.5	62.1	67.1	16.0	**Yes**
R2	345	69.6	72.8	71.7	71.8	61.6	66.6	6.2	**Yes**
R3	490	66.8	70.1	68.9	69.1	64.6	69.6	0.5	**Yes**
R4	1,050	60.4	64.0	62.7	63.0	60.4	65.4	0.0	No
R5	440	67.6	71.0	69.7	70.0	68.3	73.3	0.0	No
R6	1,130	49.8	53.4	52.0	52.4	54.6	59.6	0.0	No
R7	925	61.5	65.0	63.7	64.1	67.2	72.2	0.0	No
R8	1,320	58.5	62.1	60.7	61.2	62.9	67.9	0.0	No
R9	865	57.1	60.6	59.3	59.6	58.3	63.3	0.0	No
R10	990	60.9	64.5	63.1	63.5	57.0	62.0	2.5	**Yes**
R11	1,070	55.3	58.8	57.5	57.9	58.2	63.2	0.0	No
R12	1,040	50.5	54.1	52.7	53.1	68.1	73.1	0.0	No
R13	930	51.4	55.0	53.7	54.0	67.0	72.0	0.0	No
R14	1,575	52.0	55.6	54.3	54.7	61.4	66.4	0.0	No
Block 3									
R1	120	77.9	80.4	79.6	79.5	62.1	67.1	13.3	**Yes**
R2	90	80.1	82.2	81.5	81.5	61.6	66.6	15.6	**Yes**
R3	485	66.8	70.5	69.2	69.3	64.6	69.6	0.9	**Yes**
R4	770	57.9	61.8	60.4	60.7	60.4	65.4	0.0	No
R5	775	62.9	66.8	65.4	65.6	68.3	73.3	0.0	No
R6	1,460	47.5	51.6	50.1	50.4	54.6	59.6	0.0	No
R7	4,240	48.4	52.6	51.0	51.4	67.2	72.2	0.0	No
R8	1,630	56.6	60.7	59.2	59.5	62.9	67.9	0.0	No
R9	970	51.0	55.0	53.5	53.8	58.3	63.3	0.0	No
R10	1,140	54.6	58.6	57.2	57.5	57.0	62.0	0.0	No

Table IV.H-12 (Continued)
Construction Noise Impacts

Off-Site Receptor Location	Approximate Distance from Receptor to Project Construction Area (feet)	Estimated Construction Noise Levels by Construction Phases (L_{eq} (dBA))				Existing Daytime Ambient Noise Levels (L_{eq} (dBA))	Significance Criteria (L_{eq} (dBA))[a]	Maximum Noise Exceedance above the Significance Criteria (L_{eq} (dBA))	Significant Impact Without Mitigation?
		Demo	Grading	Structure	Finishes				
R11	1,290	53.6	57.6	56.1	56.5	58.2	63.2	0.0	No
R12	1,050	50.3	54.3	52.9	53.2	68.1	73.1	0.0	No
R13	680	54.0	57.8	56.4	56.7	67.0	72.0	0.0	No
R14	1,895	50.3	54.4	52.9	53.3	61.4	66.4	0.0	No
Block 4									
R1	380	68.8	72.2	71.1	70.0	62.1	67.1	5.1	**Yes**
R2	65	82.6	84.2	83.6	80.8	61.6	66.6	17.6	**Yes**
R3	100	79.3	81.6	80.8	78.5	64.6	69.6	12.0	**Yes**
R4	860	47.1	50.8	49.5	48.7	60.4	65.4	0.0	No
R5	770	63.0	66.7	65.4	64.6	68.3	73.3	0.0	No
R6	1,470	47.6	51.4	50.0	49.4	54.6	59.6	0.0	No
R7	1,190	59.4	63.1	61.8	61.1	67.2	72.2	0.0	No
R8	1,550	57.1	60.9	59.6	59.0	62.9	67.9	0.0	No
R9	660	54.3	57.9	56.7	55.8	58.3	63.3	0.0	No
R10	850	52.2	55.9	54.6	53.8	57.0	62.0	0.0	No
R11	1,070	50.3	54.0	52.7	52.0	58.2	63.2	0.0	No
R12	690	53.9	57.6	56.3	55.5	68.1	73.1	0.0	No
R13	600	60.1	63.7	62.5	61.5	67.0	72.0	0.0	No
R14	1,850	55.6	59.5	58.1	57.5	61.4	66.4	0.0	No
Block 5/6									
R1	350	69.5	73.8	74.0	73.2	62.1	67.1	6.9	**Yes**
R2	325	70.1	74.4	74.6	73.8	61.6	66.6	8.0	**Yes**
R3	130	77.3	80.9	81.3	80.1	64.6	69.6	11.7	**Yes**
R4	1,100	45.0	49.7	49.7	49.2	60.4	65.4	0.0	No
R5	430	67.8	72.2	72.4	71.7	68.3	73.3	0.0	No
R6	1,120	49.9	54.5	54.5	54.0	54.6	59.6	0.0	No
R7	760	63.1	67.7	67.7	67.2	67.2	72.2	0.0	No
R8	1,130	59.8	64.4	64.5	64.0	62.9	67.9	0.0	No

Table IV.H-12 (Continued)
Construction Noise Impacts

Off-Site Receptor Location	Approximate Distance from Receptor to Project Construction Area (feet)	Estimated Construction Noise Levels by Construction Phases (L_{eq} (dBA))				Existing Daytime Ambient Noise Levels (L_{eq} (dBA))	Significance Criteria (L_{eq} (dBA))[a]	Maximum Noise Exceedance above the Significance Criteria (L_{eq} (dBA))	Significant Impact Without Mitigation?
		Demo	Grading	Structure	Finishes				
R9	500	61.6	66.0	66.2	65.5	58.3	63.3	2.9	**Yes**
R10	620	59.8	64.3	64.4	63.8	57.0	62.0	2.4	**Yes**
R11	750	58.2	62.8	62.9	62.3	58.2	63.2	0.0	No
R12	670	54.2	58.7	58.8	58.2	68.1	73.1	0.0	No
R13	870	57.0	61.6	61.6	61.1	67.0	72.0	0.0	No
R14	1,420	52.9	57.5	57.5	57.1	61.4	66.4	0.0	No
Block 7									
R1	870	62.0	65.6	64.2	64.6	62.1	67.1	0.0	No
R2	1,220	59.2	62.8	61.4	61.8	61.6	66.6	0.0	No
R3	1,010	60.7	64.4	63.0	63.4	64.6	69.6	0.0	No
R4	1,950	45.2	48.9	47.5	47.9	60.4	65.4	0.0	No
R5	180	74.8	77.6	76.6	76.5	68.3	73.3	4.3	**Yes**
R6	340	59.7	63.0	61.8	61.9	54.6	59.6	3.4	**Yes**
R7	205	73.8	76.7	75.6	75.6	67.2	72.2	4.5	**Yes**
R8	580	55.4	58.9	57.5	57.8	62.9	67.9	0.0	No
R9	890	61.8	65.4	64.0	64.4	58.3	63.3	2.1	**Yes**
R10	880	56.9	60.5	59.1	59.5	57.0	62.0	0.0	No
R11	760	58.1	61.7	60.3	60.7	58.2	63.2	0.0	No
R12	1,180	49.4	53.1	51.7	52.1	68.1	73.1	0.0	No
R13	1,760	46.0	49.8	48.3	48.8	67.0	72.0	0.0	No
R14	765	58.1	61.7	60.3	60.6	61.4	66.4	0.0	No
Block 8									
R1	870	62.7	66.5	67.3	64.8	62.1	67.1	0.2	**Yes**
R2	855	62.8	66.7	67.5	64.9	61.6	66.6	0.9	**Yes**
R3	415	58.7	62.4	63.3	60.6	64.6	69.6	0.0	No
R4	1,600	42.6	46.5	47.2	44.7	60.4	65.4	0.0	No
R5	575	66.1	69.9	70.7	68.1	68.3	73.3	0.0	No
R6	1,020	51.3	55.2	56.0	53.5	54.6	59.6	0.0	No

Table IV.H-12 (Continued)
Construction Noise Impacts

Off-Site Receptor Location	Approximate Distance from Receptor to Project Construction Area (feet)	Estimated Construction Noise Levels by Construction Phases (L_{eq} (dBA))				Existing Daytime Ambient Noise Levels (L_{eq} (dBA))	Significance Criteria (L_{eq} (dBA))[a]	Maximum Noise Exceedance above the Significance Criteria (L_{eq} (dBA))	Significant Impact Without Mitigation?
		Demo	Grading	Structure	Finishes				
R7	570	61.2	65.0	65.8	63.2	67.2	72.2	0.0	No
R8	880	57.6	61.4	62.2	59.7	62.9	67.9	0.0	No
R9	60	83.5	85.7	87.2	84.3	58.3	63.3	23.9	**Yes**
R10	135	77.4	80.6	81.8	78.8	57.0	62.0	19.8	**Yes**
R11	300	71.3	74.9	75.9	73.1	58.2	63.2	12.7	**Yes**
R12	310	61.0	64.7	65.6	62.8	68.1	73.1	0.0	No
R13	1,270	49.5	53.4	54.1	51.7	67.0	72.0	0.0	No
R14	1,210	54.9	58.8	59.5	57.1	61.4	66.4	0.0	No
West Lot									
R1	1,210	61.5	62.1	61.0	61.3	62.1	67.1	0.0	No
R2	1,500	59.6	60.3	59.3	59.5	61.6	66.6	0.0	No
R3	1,230	61.3	61.9	60.9	61.1	64.6	69.6	0.0	No
R4	2,260	41.1	41.9	40.8	41.0	60.4	65.4	0.0	No
R5	520	68.5	68.8	67.9	68.1	68.3	73.3	0.0	No
R6	340	67.0	67.0	66.2	66.5	54.6	59.6	7.4	**Yes**
R7	40	88.9	85.4	85.5	86.9	67.2	72.2	16.7	**Yes**
R8	235	74.9	74.7	74.0	74.3	62.9	67.9	7.0	**Yes**
R9	965	58.4	58.9	57.9	58.1	58.3	63.3	0.0	No
R10	870	54.2	54.8	53.8	54.0	57.0	62.0	0.0	No
R11	650	56.7	57.1	56.1	56.4	58.2	63.2	0.0	No
R12	1,270	51.0	51.7	50.6	50.8	68.1	73.1	0.0	No
R13	2,040	47.0	47.7	46.7	46.9	67.0	72.0	0.0	No
R14	50	87.1	84.2	84.2	85.3	61.4	66.4	20.7	**Yes**
East Lot[b]									
R1	715	—[b]	54.9	52.4	—[b]	62.1	67.1	0.0	No
R2	215	—[b]	64.1	62.1	—[b]	61.6	66.6	0.0	No
R3	325	—[b]	71.1	68.8	—[b]	64.6	69.6	1.5	**Yes**
R4	600	—[b]	61.3	58.3	—[b]	60.4	65.4	0.0	No

Table IV.H-12 (Continued)
Construction Noise Impacts

Off-Site Receptor Location	Approximate Distance from Receptor to Project Construction Area (feet)	Estimated Construction Noise Levels by Construction Phases (L_{eq} (dBA))				Existing Daytime Ambient Noise Levels (L_{eq} (dBA))	Significance Criteria (L_{eq} (dBA))[a]	Maximum Noise Exceedance above the Significance Criteria (L_{eq} (dBA))	Significant Impact Without Mitigation?
		Demo	Grading	Structure	Finishes				
R5	1,120	—[b]	61.3	58.6	—[b]	68.3	73.3	0.0	No
R6	1,810	—[b]	47.2	44.5	—[b]	54.6	59.6	0.0	No
R7	1,500	—[b]	58.8	56.1	—[b]	67.2	72.2	0.0	No
R8	1,850	—[b]	57.1	54.3	—[b]	62.9	67.9	0.0	No
R9	900	—[b]	53.1	50.4	—[b]	58.3	63.3	0.0	No
R10	1,110	—[b]	51.3	48.7	—[b]	57.0	62.0	0.0	No
R11	1,340	—[b]	49.8	47.1	—[b]	58.2	63.2	0.0	No
R12	845	—[b]	53.6	51.0	—[b]	68.1	73.1	0.0	No
R13	10	—[b]	93.0	92.6	—[b]	67.0	72.0	21.0	**Yes**
R14	2,165	—[b]	50.7	48.0	—[b]	61.4	66.4	0.0	No

[a] *Significance criteria are equivalent to the measured daytime ambient noise levels (see Table IV.H-7 on page IV.H-25) plus 5 dBA, per the L.A. CEQA Thresholds Guide for construction activities lasting longer than 10 days in a three-month period. If the estimated construction noise levels exceed those significance criteria, a construction-related noise impact is identified.*

[b] *No demo and finishes phases for the East Lot. Removal of the existing parking lot is considered part of the grading phase.*

Source: AES, 2022. See Appendix L of this Draft EIR.

In addition, the concrete mat foundation pour for building foundations could extend into the nighttime hours (after 10:00 P.M.) Table IV.H-13 (on page IV.H-45) presents the estimated construction noise levels at the off-site receptor locations during the concrete mat foundation pour. As indicated in Table IV.H-13, the concrete mat foundation pour occurring during the nighttime hours (single night for each of the Blocks), if permitted by the Executive Director of the Board of Police Commissioners (per LAMC Section 41.40), would exceed the nighttime ambient noise levels by 5 dBA or more at the following receptor locations:

- Block 1 construction: receptor locations R1 through R5, R9, and R10.
- Block 2 construction: receptor locations R1 through R5, R9, and R10.
- Block 3 construction: receptor locations R1 through R4, R10, and R13.
- Block 4 construction: receptor locations R1 through R3, R10, and R13.
- Block 5/6 construction: receptor locations R1 through R3, R5, R9 through R11, and R13.
- Block 7 construction: receptor locations R1 through R3, R5 through R7, R9, and R10.
- Block 8 construction: receptor locations R1 through R3, R5, R9, through R11.
- West Lot construction: receptor locations R5 through R7, R10, and R14.

In addition, the construction of the Project would have the potential to overlap for some of the Blocks and the Metro parking structures (West Lot and East Lot). Therefore, overlapping construction noise activities were evaluated to determine the potential impacts. Construction noise impacts associated with the overlapping construction are provided in Table IV.H-14 on page on page IV.H-46. As indicated therein, the overlapping construction would exceed the significance threshold at all receptor locations, with the exception of receptor locations R4 and R12. The estimated overlapping construction noise would exceed the significance threshold from 7.1 dBA at receptor location R5 to 24.0 dBA at receptor location R9. **Therefore, based on the analysis described above, temporary noise impacts associated with the Project's on-site construction would be significant without mitigation measures.**

Table IV.H-13
Construction Noise Impacts—Concrete Mat Foundation Pour

Off-Site Receptor Location	Estimated Construction Noise Levels during Concrete Mat Foundation Pour by Blocks, (L_{eq} (dBA))								Existing Nighttime Ambient Noise Levels (L_{eq} (dBA))	Significance Criteria (L_{eq} (dBA))[a]	Maximum Noise Exceedance above the Significance Criteria (L_{eq} (dBA))	Significant Impact Without Mitigation?
	Block 1	Block 2	Block 3	Block 4	Block 5/6	Block 7	Block 8	West Lot				
R1	73.3	82.5	79.6	71.1	74.0	64.2	67.3	61.0	57.3	62.3	20.2	**Yes**
R2	66.7	71.7	81.5	83.6	74.6	61.4	67.5	59.3	56.4	61.4	22.2	**Yes**
R3	67.5	68.9	69.2	80.8	81.3	63.0	63.3	60.9	57.8	62.8	18.5	**Yes**
R4	60.6	62.7	60.4	49.5	49.7	47.5	47.2	40.8	50.2	55.2	7.5	**Yes**
R5	81.2	69.7	65.4	65.4	72.4	76.6	70.7	67.9	63.6	68.6	12.6	**Yes**
R6	55.5	52.0	50.1	50.0	54.5	61.8	56.0	66.2	54.4	59.4	6.8	**Yes**
R7	66.6	63.7	51.0	61.8	67.7	75.6	65.8	85.5	63.0	68.0	17.5	**Yes**
R8	57.7	60.7	59.2	59.6	64.5	57.5	62.2	74.0	60.5	65.5	8.5	**Yes**
R9	64.8	59.3	53.5	56.7	66.2	64.0	87.2	57.9	54.4	59.4	27.8	**Yes**
R10	64.0	63.1	57.2	54.6	64.4	59.1	81.8	53.8	49.0	54.0	27.8	**Yes**
R11	59.2	57.5	56.1	52.7	62.9	60.3	75.9	56.1	57.7	62.7	13.2	**Yes**
R12	63.1	52.7	52.9	56.3	58.8	51.7	65.6	50.6	61.9	66.9	0.0	No
R13	51.5	53.7	56.4	62.5	61.6	48.3	54.1	46.7	52.4	57.4	5.1	**Yes**
R14	56.1	54.3	52.9	58.1	57.5	60.3	59.5	84.2	58.8	63.8	20.4	**Yes**

[a] *Significance criteria are equivalent to the measured nighttime ambient noise levels (see Table IV.H-7 on page IV.H-25) plus 5 dBA, per the L.A. CEQA Thresholds Guide for construction activities lasting longer than 10 days in a three-month period. If the estimated construction noise levels exceed those significance criteria, a construction-related noise impact is identified.*

Source: AES, 2022. See Appendix L of this Draft EIR.

Table IV.H-14
Construction Noise Impacts—Overlapping Construction

Off-Site Receptor Location	Estimated Construction Noise Levels by Construction Phases (L_{eq} (dBA))						Existing Daytime Ambient Noise Levels (L_{eq} (dBA))	Significance Criteria (L_{eq} (dBA))[a]	Maximum Noise Exceedance above the Significance Criteria (L_{eq} (dBA))	Significant Impact Without Mitigation?
	East Lot Grading; West Lot Demo (2022)	Block 0 Grading; West Lot Structure (2022)	Block 0 Grading; Block 7 Grading; West Lot Structure; Block 8 Demo (2022)	Block 0 Structure; Block 7 Grading; Block 8 Grading (2023)	Block 7 Finishes; Block 8 Structure; Block 5/6 Grading (2023)	Block 8 Finishes; Block 5/6 Structure (2024)				
R1	62.4	69.0	71.3	70.3	**75.1**	74.5	62.1	67.1	8.0	**Yes**
R2	65.4	67.3	69.6	69.2	**75.4**	75.0	61.6	66.6	8.8	**Yes**
R3	71.5	70.8	71.9	69.3	81.1	**81.3**	64.6	69.6	11.7	**Yes**
R4	61.3	51.5	53.7	52.3	53.2	50.9	60.4	65.4	0.0	No
R5	69.3	76.7	**80.4**	79.2	78.6	73.8	68.3	73.3	7.1	**Yes**
R6	67.0	67.5	**68.9**	64.6	63.5	57.0	54.6	59.6	9.3	**Yes**
R7	**88.9**	88.3	88.6	81.9	76.6	69.0	67.2	72.2	16.7	**Yes**
R8	75.0	76.1	**76.3**	69.1	67.0	65.7	62.9	67.9	8.4	**Yes**
R9	59.5	71.0	83.8	85.8	**87.3**	84.4	58.3	63.3	24.0	**Yes**
R10	56.0	70.1	78.2	80.8	**81.9**	79.0	57.0	62.0	19.9	**Yes**
R11	57.5	71.2	74.5	75.7	**76.2**	73.5	58.2	63.2	13.0	**Yes**
R12	55.5	58.5	63.4	65.3	66.6	64.3	68.1	73.1	0.0	No
R13	**93.0**	63.0	63.4	60.2	62.5	62.0	67.0	72.0	21.0	**Yes**
R14	**87.1**	84.2	84.3	64.7	64.2	60.3	61.4	66.4	20.7	**Yes**

[a] *Significance criteria are equivalent to the measured daytime ambient noise levels (see Table IV.H-7 on page IV.H-25) plus 5 dBA, per the L.A. CEQA Thresholds Guide for construction activities lasting longer than 10 days in a three-month period. If the estimated construction noise levels exceed those significance criteria, a construction-related noise impact is identified.*

Source: AES, 2022. See Appendix L of this Draft EIR.

(ii) Off-Site Construction Noise

In addition to on-site construction noise sources, other noise sources may include materials delivery, concrete mixing, and haul trucks (construction trucks), as well as construction worker vehicles accessing the Project Site during construction. Typically, construction trucks generate higher noise levels than construction worker vehicles. The major noise sources associated with off-site construction trucks would be from the delivery/concrete/haul trucks. As described above, construction delivery/haul trucks would access the Project Site via Burbank Boulevard, Lankershim Boulevard, Cumpston Street, Chandler Boulevard, Fair Avenue, Vineland Avenue, Tujunga Avenue, Colfax Avenue, Magnolia Boulevard, and Riverside Drive.[51]

As discussed in Section IV.K, Transportation, of this Draft EIR, the peak period of construction with the highest number of construction trucks would occur during the concrete mat foundation pour, which could include up to 400 concrete trucks (800 truck trips) per day. As described above, the construction of the Project would have the potential to overlap for some of the Blocks and the Metro parking structures (West Lot and East Lot). The maximum peak construction trucks would occur during the overlapping construction of Block 0 (structure phase), Block 7 (structure phase), and Block 8 (mat foundation pour phase), which would include up to 500 trucks (1,000 truck trips per day). Therefore, the off-site construction noise levels associated with overlapping construction were evaluated to determine the potential impacts. Table IV.H-15 on page IV.H-48 provides the estimated number of construction-related truck trips for the various construction phases, including haul/concrete/material delivery, and the estimated noise levels along the haul routes under Haul Route Option A. As indicated in Table IV.H-15, the hourly noise levels generated by off-site construction trips associated with the construction for each of the phases would exceed the 5-dBA significance criteria for Block 1 (Cumpston Street), Block 2 (Cumpston Street), Block 3 (Chandler Boulevard and Fair Avenue), Block 4 (Chandler Boulevard and Fair Avenue), Block 7 (Chandler Boulevard), and the West Lot (Chandler Boulevard). In the event of overlapping construction under Haul Route Option A, the construction traffic would exceed the 5-dBA significance criterion along the roadway segments of Burbank Boulevard, Lankershim Boulevard, and Chandler Boulevard. Table IV.H-16 on page IV.H-53 provides the estimated noise levels along the haul routes under Haul Route Option B. As indicated in Table IV.H-16, the hourly noise levels generated by construction trucks would exceed the 5-dBA significance criterion for Block 1 (Vineland Avenue, Chandler Boulevard, Fair Avenue, and Cumpston Street), Block 2 (Vineland Avenue, Chandler Boulevard, Fair Avenue, and Cumpston Street), Block 3 (Vineland Avenue, Chandler Boulevard, and Fair Avenue), Block 4 (Vineland Avenue, Chandler Boulevard, and Fair Avenue), Block 5/6 (Vineland Avenue and Chandler Boulevard), and Block 8

[51] *Maps of the proposed haul routes are included in Appendix L of this Draft EIR.*

Table IV.H-15
Off-Site Construction Traffic Noise Levels—Haul Route Option A

Construction Phase	Estimated Number of Construction Truck/Worker Trips per Day	Estimated Number of Construction Truck/Worker Trips per Hour[b]	Estimated Truck Noise Levels Plus Ambient Along the Project Truck Routes[a] (L_{eq} (dBA)) (Project/Project + Ambient)					
			Burbank Blvd.	Lankershim Blvd.	Cumpston St.	Chandler Blvd.	Fair Ave.	Colfax Ave.
Existing Ambient Noise Levels Along the Project Truck Routes, L_{eq} (dBA)			68.3	68.3	62.1	64.6	61.6	67.2
Significance Criteria, L_{eq} (dBA)[d]			73.3	73.3	67.1	69.6	66.6	72.2
Block 0								
Demolition	32/50	4/20	58.1/68.7	58.1/68.7	—[c]	—[c]	—[c]	—[c]
Grading	100/70	17/28	63.8/69.6	63.8/69.6	—[c]	—[c]	—[c]	—[c]
Structure	100/100	13/40	62.9/69.4	62.9/69.4	—[c]	—[c]	—[c]	—[c]
Finishes	28/80	4/32	58.6/68.7	58.6/68.7	—[c]	—[c]	—[c]	—[c]
Maximum Noise Increase over Significance Criteria, dBA			0.0	0.0	—[c]	—[c]	—[c]	—[c]
Significant Impact?			No	No	—[c]	—[c]	—[c]	—[c]
Block 1								
Demolition	38/40	5/16	58.8/68.8	58.8/68.8	59.4/64.0	—[c]	—[c]	—[c]
Grading	240/80	40/32	67.4/70.9	67.4/70.9	68.0/69.0	—[c]	—[c]	—[c]
Mat Foundation Pour	800/600	100/240	71.7/73.3	71.7/73.3	72.3/72.7	—[c]	—[c]	—[c]
Structure	100/600	13/240	65.0/70.0	65.0/70.0	65.6/67.2	—[c]	—[c]	—[c]
Finishes	32/460	4/184	62.1/69.2	62.1/69.2	62.7/65.4	—[c]	—[c]	—[c]
Maximum Noise Increase over Significance Criteria, dBA			0.0	0.0	5.6	—[c]	—[c]	—[c]
Significant Impact?			No	No	**Yes**	—[c]	—[c]	—[c]
Block 2								
Demolition	32/30	4/12	57.8/68.7	57.8/68.7	58.4/63.6	—[c]	—[c]	—[c]
Grading	240/70	40/28	67.4/70.9	67.4/70.9	68.0/69.0	—[c]	—[c]	—[c]
Mat Foundation Pour	800/550	100/220	71.6/73.3	71.6/73.3	72.3/72.7	—[c]	—[c]	—[c]
Structure	100/550	13/220	64.8/69.9	64.8/69.9	65.4/67.1	—[c]	—[c]	—[c]
Finishes	28/420	4/168	61.9/69.2	61.9/69.2	62.4/65.3	—[c]	—[c]	—[c]
Maximum Noise Increase over Significance Criteria, dBA			0.0	0.0	5.6	—[c]	—[c]	—[c]
Significant Impact?			No	No	**Yes**	—[c]	—[c]	—[c]

Table IV.H-15 (Continued)
Off-Site Construction Traffic Noise Levels—Haul Route Option A

Construction Phase	Estimated Number of Construction Truck/Worker Trips per Day	Estimated Number of Construction Truck/Worker Trips per Hour[b]	Estimated Truck Noise Levels Plus Ambient Along the Project Truck Routes[a] (L_{eq} (dBA)) (Project/Project + Ambient)					
			Burbank Blvd.	Lankershim Blvd.	Cumpston St.	Chandler Blvd.	Fair Ave.	Colfax Ave.
Existing Ambient Noise Levels Along the Project Truck Routes, L_{eq} (dBA)			68.3	68.3	62.1	64.6	61.6	67.2
Significance Criteria, L_{eq} (dBA)[d]			73.3	73.3	67.1	69.6	66.6	72.2
Block 3								
Demolition	16/50	2/20	55.8/68.5	55.8/68.5	—[c]	55.8/65.1	57.0/62.9	—[c]
Grading	180/70	30/28	66.2/70.4	66.2/70.4	—[c]	66.2/68.5	67.4/68.4	—[c]
Mat Foundation Pour	400/100	50/40	68.4/71.4	68.4/71.4	—[c]	68.4/69.9	69.6/70.2	—[c]
Structure	100/100	13/40	62.9/69.4	62.9/69.4	—[c]	62.9/66.8	64.1/66.0	—[c]
Finishes	2/80	1/32	55.1/68.5	55.1/68.5	—[c]	55.1/65.1	56.3/62.7	—[c]
Maximum Noise Increase over Significance Criteria, dBA			0.0	0.0	—[c]	0.3	3.6	—[c]
Significant Impact?			No	No	—[c]	**Yes**	**Yes**	—[c]
Block 4								
Demolition	38/40	5/16	58.8/68.8	58.8/68.8	—[c]	58.8/65.6	60.0/63.9	—[c]
Grading	180/80	30/32	66.2/70.4	66.2/70.4	—[c]	66.2/68.5	67.4/68.4	—[c]
Mat Foundation Pour	400/600	50/240	69.1/71.7	69.1/71.7	—[c]	69.1/70.4	70.2/70.8	—[c]
Structure	100/600	13/240	62.8/69.4	62.8/69.4	—[c]	62.8/66.8	66.2/67.5	—[c]
Finishes	32/460	4/184	62.1/69.2	62.1/69.2	—[c]	62.1/66.5	63.3/65.5	—[c]
Maximum Noise Increase over Significance Criteria, dBA			0.0	0.0	—[c]	0.8	4.2	—[c]
Significant Impact?			No	No	—[c]	**Yes**	**Yes**	—[c]

Table IV.H-15 (Continued)
Off-Site Construction Traffic Noise Levels—Haul Route Option A

Construction Phase	Estimated Number of Construction Truck/Worker Trips per Day	Estimated Number of Construction Truck/Worker Trips per Hour[b]	Estimated Truck Noise Levels Plus Ambient Along the Project Truck Routes[a] (L_{eq} (dBA)) (Project/Project + Ambient)					
			Burbank Blvd.	Lankershim Blvd.	Cumpston St.	Chandler Blvd.	Fair Ave.	Colfax Ave.
Existing Ambient Noise Levels Along the Project Truck Routes, L_{eq} (dBA)			68.3	68.3	62.1	64.6	61.6	67.2
Significance Criteria, L_{eq} (dBA)[d]			73.3	73.3	67.1	69.6	66.6	72.2
Block 5/6								
Demolition	46/40	6/16	67.4/70.9	67.4/70.9	—[c]	—[c]	—[c]	—[c]
Grading	240/100	40/40	67.4/70.9	67.4/70.9	—[c]	—[c]	—[c]	—[c]
Mat Foundation Pour	800/710	100/284	71.7/73.3	71.7/73.3	—[c]	—[c]	—[c]	—[c]
Structure	100/710	13/284	65.3/70.1	65.3/70.1	—[c]	—[c]	—[c]	—[c]
Finishes	40/520	5/208	62.8/69.4	62.8/69.4	—[c]	—[c]	—[c]	—[c]
Maximum Noise Increase over Significance Criteria, dBA			0.0	0.0	—[c]	—[c]	—[c]	—[c]
Significant Impact?			No	No	—[c]	—[c]	—[c]	—[c]
Block 7								
Demolition	32/30	4/12	57.8/68.7	58.4/68.7	—[c]	57.8/65.4	—[c]	59.0/67.8
Grading	180/70	30/28	66.2/70.4	66.8/70.6	—[c]	66.2/68.5	—[c]	67.4/70.3
Mat Foundation Pour	400/550	50/220	69.0/71.7	69.6/72.0	—[c]	69.0/70.3	—[c]	70.2/72.0
Structure	100/550	13/220	64.8/69.9	65.4/70.1	—[c]	64.8/67.7	—[c]	66.0/69.7
Finishes	28/420	4/168	61.9/69.2	62.4/69.3	—[c]	61.9/66.5	—[c]	63.0/68.6
Maximum Noise Increase over Significance Criteria, dBA			0.0	0.0	—[c]	0.7	—[c]	0.0
Significant Impact?			No	No	—[c]	**Yes**	—[c]	No

Table IV.H-15 (Continued)
Off-Site Construction Traffic Noise Levels—Haul Route Option A

Construction Phase	Estimated Number of Construction Truck/Worker Trips per Day	Estimated Number of Construction Truck/Worker Trips per Hour[b]	Estimated Truck Noise Levels Plus Ambient Along the Project Truck Routes[a] (L_{eq} (dBA)) (Project/Project + Ambient)					
			Burbank Blvd.	Lankershim Blvd.	Cumpston St.	Chandler Blvd.	Fair Ave.	Colfax Ave.
Existing Ambient Noise Levels Along the Project Truck Routes, L_{eq} (dBA)			68.3	68.3	62.1	64.6	61.6	67.2
Significance Criteria, L_{eq} (dBA)[d]			73.3	73.3	67.1	69.6	66.6	72.2
Block 8								
Demolition	10/40	2/16	55.6/68.5	55.6/68.5	—[c]	—[c]	—[c]	—[c]
Grading	240/80	40/32	67.4/70.9	67.4/70.9	—[c]	—[c]	—[c]	—[c]
Mat Foundation Pour	800/300	100/120	71.4/73.1	71.4/73.1	—[c]	—[c]	—[c]	—[c]
Structure	100/300	13/120	63.9/69.6	63.9/69.6	—[c]	—[c]	—[c]	—[c]
Finishes	32/400	4/160	61.7/69.2	61.7/69.2	—[c]	—[c]	—[c]	—[c]
Maximum Noise Increase over Significance Criteria, dBA			0.0	0.0	—[c]	—[c]	—[c]	—[c]
Significant Impact?			No	No	—[c]	—[c]	—[c]	—[c]
West Lot								
Demolition	12/40	2/16	55.6/68.5	56.2/68.6	—[c]	55.6/65.1[f]	—[c]	56.8/67.6
Grading	100/60	17/24	63.8/69.6	64.4/69.8	—[c]	63.8/67.2	—[c]	65.0/69.2
Mat Foundation Pour	400/170	50/68	68.5/71.4	69.1/71.7	—[c]	68.5/70.0	—[c]	69.7/71.6
Structure	100/170	13/68	63.3/69.5	63.9/69.6	—[c]	63.3/67.0	—[c]	64.5/69.1
Finishes	10/110	2/44	57.2/68.6	57.8/68.7	—[c]	57.2/65.3	—[c]	58.4/67.7
Maximum Noise Increase over Significance Criteria, dBA			0.0	0.0	—[c]	0.4	—[c]	0.0
Significant Impact?			No	No	—[c]	**Yes**	—[c]	No
East Lot								
Grading	100/30	17/12	63.7/69.6	63.7/69.6	—[c]	63.7/67.2	—[c]	—[c]
Structure	100/50	13/20	62.6/69.3	62.6/69.3	—[c]	62.6/66.7	—[c]	—[c]
Maximum Noise Increase over Significance Criteria, dBA			0.0	0.0	—[c]	0.0	—[c]	—[c]
Significant Impact?			No	No	—[c]	No	—[c]	—[c]

Table IV.H-15 (Continued)
Off-Site Construction Traffic Noise Levels—Haul Route Option A

Construction Phase	Estimated Number of Construction Truck/Worker Trips per Day	Estimated Number of Construction Truck/Worker Trips per Hour[b]	Estimated Truck Noise Levels Plus Ambient Along the Project Truck Routes[a] (L_{eq} (dBA)) (Project/Project + Ambient)					
			Burbank Blvd.	Lankershim Blvd.	Cumpston St.	Chandler Blvd.	Fair Ave.	Colfax Ave.
Existing Ambient Noise Levels Along the Project Truck Routes, L_{eq} (dBA)			68.3	68.3	62.1	64.6	61.6	67.2
Significance Criteria, L_{eq} (dBA)[d]			73.3	73.3	67.1	69.6	66.6	72.2
Overlapping Construction								
Overlapping 1[e]	200/110	25/44	66.3/72.5	66.6/72.6	—[c]	66.3/70.0	—[c]	65.0/69.2
Overlapping 2[e]	500/240	63/96	69.8/73.6	70.2/73.8	—[c]	68.5/70.0	—[c]	69.7/71.6
Overlapping 3[e]	1000/950	125/380	72.7/75.9	72.8/76.0	—[c]	64.8/67.7	—[c]	66.0/69.7
Overlapping 4[e]	368/820	46/328	69.8/74.7	69.9/74.8	—[c]	61.9/66.5	—[c]	63.0/68.6
Overlapping 5[e]	832/1110	104/444	72.1/74.7	72.1/74.7	—[c]	—[c]	—[c]	—[c]
Maximum Noise Increase over Significance Criteria, dBA			2.6	2.7	—[c]	0.4	—[c]	0.0
Significant Impact?			**Yes**	**Yes**	—[c]	**Yes**	—[c]	No

[a] *Noise levels include Project-related truck trips plus ambient.*

[b] *For construction trucks, the number of hourly trips is based on an hourly average, assuming a uniform distribution of trips over an 8-hour workday. Haul truck hourly trips are based on 6-hour hauling per day. [For worker vehicles, the number of hourly trips is equal to 40% of the total daily worker trips that would arrive in one hour to represent a conservative analysis.]*

[c] *Not used for this Block/Metro parking (West Lot and East Lot) construction.*

[d] *Significance criteria are equivalent to the ambient noise levels plus 5 dBA.*

[e] *Overlapping construction scenarios:*

- *Overlapping 1: East Lot Structure and West Lot Grading.*
- *Overlapping 2: Block 0 Grading and West Lot Mat Foundation Pour.*
- *Overlapping 3: Block 0 Structure, Block 7 Structure, and Block 8 Mat Foundation Pour.*
- *Overlapping 4: Block 7 Foundation, Block 8 Structure, and Block 5/6 Grading.*
- *Overlapping 5: Block 8 Foundation and Block 5/6 Mat Foundation Pour.*

Source: AES, 2020. See Appendix L of this Draft EIR.

Table IV.H-16
Off-Site Construction Truck Noise Levels—Haul Route Option B

Construction Phase	Estimated Number of Construction Truck/Worker Trips per Day	Estimated Number of Construction Truck/Worker Trips per Hour[b]	Estimated Truck Noise Levels Plus Ambient Along the Project Truck Routes,[a] (L_{eq} (dBA)) (Project/Project + Ambient)							
			Vineland Ave.	Lanker-shim Blvd.	Chandler Blvd.	Fair Ave.	Cumpston St.	Tujunga Ave.	Magnolia Blvd.	Riverside Dr.
Existing Ambient Noise Levels Along the Project Truck Routes, L_{eq} (dBA)			68.3	68.3	64.6	61.6	62.1	67.2	68.3	67.2
Significance Criteria, L_{eq} (dBA)[d]			73.3	73.3	69.6	66.6	67.1	72.2	73.3	72.2
Block 0										
Demolition	32/50	4/20	58.8/68.8	58.1/68.7	58.1/65.5	—[c]	—[c]			—[c]
Grading	100/70	17/28	64.5/69.8	63.8/69.6	63.8/67.2	—[c]	—[c]			—[c]
Structure	100/100	13/40	63.6/69.6	62.9/69.4	62.9/66.8	—[c]	—[c]			—[c]
Finishes	28/80	4/32	59.2/68.8	58.6/68.7	58.6/65.6	—[c]	—[c]			—[c]
Maximum Noise Increase over Significance Criteria, dBA			0.0	0.0	0.0	—[c]	—[c]			—[c]
Significant Impact?			No	No	No	—[c]	—[c]			—[c]
Block 1										
Demolition	38/40	5/16	59.4/68.8	58.8/68.8	58.8/65.6	60.0/63.9	59.4/64.0	—[c]	—[c]	—[c]
Grading	240/80	40/32	68.0/71.2	67.4/70.9	67.4/69.2	68.6/69.4	68.0/69.0	—[c]	—[c]	—[c]
Mat Foundation Pour	800/600	100/240	72.3/73.8	71.7/73.3	71.7/72.5	72.9/73.2	72.3/72.7	—[c]	—[c]	—[c]
Structure	100/600	13/240	65.6/70.2	65.0/70.0	65.0/67.8	66.2/67.5	65.6/67.2	—[c]	—[c]	—[c]
Finishes	32/460	4/184	62.7/69.4	62.1/69.2	62.1/66.5	63.3/65.5	62.7/65.4	—[c]	—[c]	—[c]
Maximum Noise Increase over Significance Criteria, dBA			0.5	0.0	2.9	6.6	5.6	—[c]	—[c]	—[c]
Significant Impact?			**Yes**	No	**Yes**	**Yes**	**Yes**	—[c]	—[c]	—[c]

Table IV.H-16 (Continued)
Off-Site Construction Truck Noise Levels—Haul Route Option B

Construction Phase	Estimated Number of Construction Truck/Worker Trips per Day	Estimated Number of Construction Truck/Worker Trips per Hour[b]	Estimated Truck Noise Levels Plus Ambient Along the Project Truck Routes,[a] (L_{eq} (dBA)) (Project/Project + Ambient)							
			Vineland Ave.	Lanker-shim Blvd.	Chandler Blvd.	Fair Ave.	Cumpston St.	Tujunga Ave.	Magnolia Blvd.	Riverside Dr.
Existing Ambient Noise Levels Along the Project Truck Routes, L_{eq} (dBA)			68.3	68.3	64.6	61.6	62.1	67.2	68.3	67.2
Significance Criteria, L_{eq} (dBA)[d]			73.3	73.3	69.6	66.6	67.1	72.2	73.3	72.2
Block 2										
Demolition	32/30	4/12	58.4/68.7	57.8/68.7	57.8/65.4	59.0/63.5	58.4/63.6	—[c]	—[c]	—[c]
Grading	240/70	40/28	68.0/71.2	67.4/70.9	67.4/69.2	68.6/69.4	68.0/69.0	—[c]	—[c]	—[c]
Mat Foundation Pour	800/550	100/220	72.3/73.8	71.6/73.3	71.6/72.4	72.8/73.1	72.3/72.7	—[c]	—[c]	—[c]
Structure	100/550	13/220	65.4/70.1	64.8/69.9	64.8/67.7	66/67.3	65.4/67.1	—[c]	—[c]	—[c]
Finishes	28/420	4/168	62.4/69.3	61.9/69.2	61.9/66.5	63/65.4	62.4/65.3	—[c]	—[c]	—[c]
Maximum Noise Increase over Significance Criteria, dBA			0.5	0	2.8	6.5	5.6	—[c]	—[c]	—[c]
Significant Impact?			**Yes**	No	**Yes**	**Yes**	**Yes**	—[c]	—[c]	—[c]
Block 3										
Demolition	16/50	2/20	56.5/68.6	55.8/68.5	55.8/65.1	57.0/62.9	—[c]	—[c]	—[c]	—[c]
Grading	180/70	30/28	66.8/70.6	66.2/70.4	66.2/68.5	67.4/68.4	—[c]	—[c]	—[c]	—[c]
Mat Foundation Pour	400/100	50/40	69.0/71.7	68.4/71.4	68.4/69.9	69.6/70.2	—[c]	—[c]	—[c]	—[c]
Structure	100/100	13/40	63.6/69.6	62.9/69.4	62.9/66.8	64.1/66.0	—[c]	—[c]	—[c]	—[c]
Finishes	2/80	1/32	55.7/68.5	55.1/68.5	55.1/65.1	56.3/62.7	—[c]	—[c]	—[c]	—[c]
Maximum Noise Increase over Significance Criteria, dBA			0.0	0.0	0.3	3.6	—[c]	—[c]	—[c]	—[c]
Significant Impact?			**Yes**	No	**Yes**	**Yes**	—[c]	—[c]	—[c]	—[c]

Table IV.H-16 (Continued)
Off-Site Construction Truck Noise Levels—Haul Route Option B

Construction Phase	Estimated Number of Construction Truck/Worker Trips per Day	Estimated Number of Construction Truck/Worker Trips per Hour[b]	Estimated Truck Noise Levels Plus Ambient Along the Project Truck Routes,[a] (L_{eq} (dBA)) (Project/Project + Ambient)							
			Vineland Ave.	Lanker-shim Blvd.	Chandler Blvd.	Fair Ave.	Cumpston St.	Tujunga Ave.	Magnolia Blvd.	Riverside Dr.
Existing Ambient Noise Levels Along the Project Truck Routes, L_{eq} (dBA)			68.3	68.3	64.6	61.6	62.1	67.2	68.3	67.2
Significance Criteria, L_{eq} (dBA)[d]			73.3	73.3	69.6	66.6	67.1	72.2	73.3	72.2
Block 4										
Demolition	38/40	5/16	59.4/68.8	58.8/68.8	58.8/65.6	60.0/63.9	—[c]	—[c]	—[c]	—[c]
Grading	180/80	30/32	66.8/70.6	66.2/70.4	66.2/68.5	67.4/68.4	—[c]	—[c]	—[c]	—[c]
Mat Foundation Pour	400/600	50/240	69.7/72.1	69.1/71.7	69.1/70.4	70.2/70.8	—[c]	—[c]	—[c]	—[c]
Structure	100/600	13/240	65.6/70.2	62.8/69.4	62.8/66.8	66.2/67.5	—[c]	—[c]	—[c]	—[c]
Finishes	32/460	4/184	62.7/69.4	62.1/69.2	62.1/66.5	63.3/65.5	—[c]	—[c]	—[c]	—[c]
Maximum Noise Increase over Significance Criteria, dBA			0.0	0.0	0.8	4.2	—[c]	—[c]	—[c]	—[c]
Significant Impact?			**Yes**	No	**Yes**	**Yes**	—[c]	—[c]	—[c]	—[c]
Block 5/6										
Demolition	46/40	6/16	68.0/71.2	67.4/70.9	67.4/69.2	—[c]	—[c]	—[c]	—[c]	—[c]
Grading	240/100	40/40	68.1/71.2	67.4/70.9	67.4/69.2	—[c]	—[c]	—[c]	—[c]	—[c]
Mat Foundation Pour	800/710	100/284	72.4/73.8	71.7/73.3	71.7/72.5	—[c]	—[c]	—[c]	—[c]	—[c]
Structure	100/710	13/284	65.9/70.3	65.3/70.1	65.3/68.0	—[c]	—[c]	—[c]	—[c]	—[c]
Finishes	40/520	5/208	63.4/69.5	62.8/69.4	62.8/66.8	—[c]	—[c]	—[c]	—[c]	—[c]
Maximum Noise Increase over Significance Criteria, dBA			0.5	0	2.9	—[c]	—[c]	—[c]	—[c]	—[c]
Significant Impact?			**Yes**	No	**Yes**	—[c]	—[c]	—[c]	—[c]	—[c]

Table IV.H-16 (Continued)
Off-Site Construction Truck Noise Levels—Haul Route Option B

Construction Phase	Estimated Number of Construction Truck/Worker Trips per Day	Estimated Number of Construction Truck/Worker Trips per Hour[b]	Estimated Truck Noise Levels Plus Ambient Along the Project Truck Routes,[a] (L_{eq} (dBA)) (Project/Project + Ambient)							
			Vineland Ave.	Lanker-shim Blvd.	Chandler Blvd.	Fair Ave.	Cumpston St.	Tujunga Ave.	Magnolia Blvd.	Riverside Dr.
Existing Ambient Noise Levels Along the Project Truck Routes, L_{eq} (dBA)			68.3	68.3	64.6	61.6	62.1	67.2	68.3	67.2
Significance Criteria, L_{eq} (dBA)[d]			73.3	73.3	69.6	66.6	67.1	72.2	73.3	72.2
Block 7										
Demolition	32/30	4/12	—[c]	57.8/68.7	—[c]	—[c]	—[c]	58.4/67.7	57.8/68.7	57.8/67.7
Grading	180/70	30/28	—[c]	66.2/70.4	—[c]	—[c]	—[c]	66.8/70.0	66.2/70.4	66.2/69.7
Mat Foundation Pour	400/550	50/220	—[c]	69.0/71.7	—[c]	—[c]	—[c]	69.6/71.6	69.0/71.7	69.0/71.2
Structure	100/550	13/220	—[c]	64.8/69.9	—[c]	—[c]	—[c]	65.4/69.4	64.8/69.9	64.8/69.2
Finishes	28/420	4/168	—[c]	61.9/69.2	—[c]	—[c]	—[c]	62.4/68.4	61.9/69.2	61.9/68.3
Maximum Noise Increase over Significance Criteria, dBA			—[c]	0.0	—[c]	—[c]	—[c]	0.0	0.0	0.0
Significant Impact?			—[c]	No	—[c]	—[c]	—[c]	No	No	No
Block 8										
Demolition	10/40	2/16	56.2/68.6	55.6/68.5	—[c]	—[c]	—[c]	—[c]	55.6/68.5	57.8/67.7
Grading	240/80	40/32	68.0/71.2	67.4/70.9	—[c]	—[c]	—[c]	—[c]	67.4/70.9	66.2/69.7
Mat Foundation Pour	800/300	100/120	72.1/73.6	71.4/73.1	—[c]	—[c]	—[c]	—[c]	71.4/73.1	69.0/71.2
Structure	100/300	13/120	64.5/69.8	63.9/69.6	—[c]	—[c]	—[c]	—[c]	63.9/69.6	64.8/69.2
Finishes	32/400	4/160	62.3/69.3	61.7/69.2	—[c]	—[c]	—[c]	—[c]	61.7/69.2	61.9/68.3
Maximum Noise Increase over Significance Criteria, dBA			0.3	0.0	—[c]	—[c]	—[c]	—[c]	0.0	0.0
Significant Impact?			**Yes**	No	—[c]	—[c]	—[c]	—[c]	No	No

Table IV.H-16 (Continued)
Off-Site Construction Truck Noise Levels—Haul Route Option B

Construction Phase	Estimated Number of Construction Truck/Worker Trips per Day	Estimated Number of Construction Truck/Worker Trips per Hour[b]	Estimated Truck Noise Levels Plus Ambient Along the Project Truck Routes,[a] (L_{eq} (dBA)) (Project/Project + Ambient)							
			Vineland Ave.	Lanker-shim Blvd.	Chandler Blvd.	Fair Ave.	Cumpston St.	Tujunga Ave.	Magnolia Blvd.	Riverside Dr.
Existing Ambient Noise Levels Along the Project Truck Routes, L_{eq} (dBA)			68.3	68.3	64.6	61.6	62.1	67.2	68.3	67.2
Significance Criteria, L_{eq} (dBA)[d]			73.3	73.3	69.6	66.6	67.1	72.2	73.3	72.2
West Lot										
Demolition	12/40	2/16	—[c]	55.6/68.5	—[c]	—[c]	—[c]	56.2/67.5	55.6/68.5	55.6/67.5
Grading	100/60	17/24	—[c]	63.8/69.6	—[c]	—[c]	—[c]	64.4/69.0	63.8/69.6	63.8/68.8
Mat Foundation Pour	400/170	50/68	—[c]	68.5/71.4	—[c]	—[c]	—[c]	69.1/71.3	68.5/71.4	68.5/70.9
Structure	100/170	13/68	—[c]	63.3/69.5	—[c]	—[c]	—[c]	63.9/68.9	63.3/69.5	63.3/68.7
Finishes	10/110	2/44	—[c]	57.2/68.6	—[c]	—[c]	—[c]	57.8/67.7	57.2/68.6	57.2/67.6
Maximum Noise Increase over Significance Criteria, dBA			—[c]	0.0	—[c]	—[c]	—[c]	0.0	0.0	0.0
Significant Impact?			—[c]	No	—[c]	—[c]	—[c]	No	No	No
East Lot										
Grading	100/30	17/12	64.3/69.8	63.7/69.6	63.7/67.2	—[c]	—[c]	—[c]	—[c]	—[c]
Structure	100/50	13/20	63.3/69.5	62.6/69.3	62.6/66.7	—[c]	—[c]	—[c]	—[c]	—[c]
Maximum Noise Increase over Significance Criteria, dBA			0.0	0.0	0.0	—[c]	—[c]	—[c]	—[c]	—[c]
Significant Impact?			No	No	No	—[c]	—[c]	—[c]	—[c]	—[c]
Overlapping Construction										
Overlapping 1[e]	200/110	25/44	63.3/69.5	66.3/72.5	66.3/70.0	—[c]	—[c]	64.4/69.0	63.8/69.6	63.8/68.8
Overlapping 2[e]	500/240	63/96	64.5/69.8	69.8/73.6	69.8/71.8	—[c]	—[c]	69.1/71.3	68.5/71.4	68.5/70.9
Overlapping 3[e]	1,000/950	125/380	72.7/75.1	72.7/75.9	62.9/66.8	—[c]	—[c]	65.4/69.4	72.3/74.8	64.8/69.2
Overlapping 4[e]	368/820	46/328	69.7/73.6	69.8/74.7	67.4/69.2	—[c]	—[c]	62.4/68.4	66/72.4	61.9/68.3
Overlapping 5[e]	832/1,110	104/444	72.8/75.1	72.1/74.7	71.7/72.5	—[c]	—[c]	—[c]	61.7/69.2	—[c]
Maximum Noise Increase over Significance Criteria, dBA			1.8	2.6	2.9	—[c]	—[c]	0.0	1.5	0.0
Significant Impact?			**Yes**	**Yes**	**Yes**	—[c]	—[c]	No	**Yes**	No

Table IV.H-16 (Continued)
Off-Site Construction Truck Noise Levels—Haul Route Option B

Construction Phase	Estimated Number of Construction Truck/Worker Trips per Day	Estimated Number of Construction Truck/Worker Trips per Hour[b]	Estimated Truck Noise Levels Plus Ambient Along the Project Truck Routes,[a] (L_{eq} (dBA)) (Project/Project + Ambient)							
			Vineland Ave.	Lanker-shim Blvd.	Chandler Blvd.	Fair Ave.	Cumpston St.	Tujunga Ave.	Magnolia Blvd.	Riverside Dr.
Existing Ambient Noise Levels Along the Project Truck Routes, L_{eq} (dBA)			68.3	68.3	64.6	61.6	62.1	67.2	68.3	67.2
Significance Criteria, L_{eq} (dBA)[d]			73.3	73.3	69.6	66.6	67.1	72.2	73.3	72.2

[a] *Noise levels include Project-related truck trips plus ambient.*

[b] *For construction trucks, the number of hourly trips is based on an hourly average, assuming a uniform distribution of trips over an 8-hour workday. Haul truck hourly trips are based on 6-hour hauling per day. For worker vehicles, the number of hourly trips is based on 40% of the worker trips that would arrive in one hour to represent a conservative analysis.*

[c] *Not used for this Block/Metro parking (West Lot and East Lot) construction.*

[d] *Significance criteria are equivalent to the ambient noise levels plus 5 dBA.*

[e] *Overlapping construction scenarios:*

- *Overlapping 1: East Lot Structure and West Lot Grading.*
- *Overlapping 2: Block 0 Grading and West Lot Mat Foundation Pour.*
- *Overlapping 3: Block 0 Structure, Block 7 Structure, and Block 8 Mat Foundation Pour.*
- *Overlapping 4: Block 7 Foundation, Block 8 Structure, and Block 5/6 Grading.*
- *Overlapping 5: Block 8 Foundation and Block 5/6 Mat Foundation Pour.*

Source: AES, 2020. See Appendix L of this Draft EIR.

(Vineland Avenue). In the event of overlapping construction under Haul Route Option B, the construction traffic would exceed the 5-dBA significance criterion along the roadway segments of Vineland Avenue, Lankershim Boulevard, Chandler Boulevard, and Magnolia Boulevard. **Therefore, noise impacts from off-site construction traffic would be significant without mitigation measures.**

(iii) Summary of Construction Noise Impacts

As discussed above, temporary noise impacts associated with the Project's on-site and off-site construction activities would be significant. **Therefore, without mitigation measures, Project construction activities would result in the generation of a substantial temporary increase in ambient noise levels in the vicinity of the Project in excess of significance criteria established by the City.**

(b) Operational Noise

This section provides a discussion of potential operational noise impacts on nearby noise-sensitive receptors. Specific operational noise sources addressed herein include: (a) on-site stationary noise sources, including outdoor mechanical equipment (e.g., heating, ventilation, and air conditioning [HVAC] equipment), activities within the proposed outdoor spaces (e.g., outdoor plazas, courtyards and outdoor amenity decks), parking facilities, loading docks and trash compactors; and (b) off-site mobile (roadway traffic) noise sources.

(i) On-Site Stationary Noise Sources

Mechanical Equipment

As part of the Project, new mechanical equipment (e.g., air ventilation equipment) would be located at the building roof levels and within the building interiors (e.g., garage exhaust fans and mechanical rooms). Although operation of this equipment would generate noise, Project-related outdoor mechanical equipment would be designed so as not to increase the existing ambient noise levels by 5 dBA in accordance with the City's Noise Regulations. Specifically, the Project would comply with LAMC Section 112.02, which prohibits noise from air conditioning, refrigeration, heating, pumping, and filtering equipment from exceeding the ambient noise levels on the premises of other occupied properties by more than 5 dBA. In addition, as provided above in Project Design Feature NOI-PDF-3, all outdoor mounted mechanical equipment will be screened from off-site noise-sensitive receptors by the building roof parapet. Table IV.H-17 on page IV.H-60 presents the estimated noise levels at the off-site receptor locations from operation of the Project mechanical equipment.

As indicated in Table IV.H-17, the estimated noise levels from the mechanical equipment would range from 36.0 dBA (L_{eq}) at receptor location R14 to 51.4 dBA (L_{eq}) at

Table IV.H-17
Estimated Noise Levels from Mechanical Equipment

Receptor Location	Existing Ambient Noise Levels, dBA (L_{eq})	Estimated Noise Levels from Mechanical Equipment, dBA (L_{eq})	Ambient + Project Noise Levels, dBA (L_{eq})	Significance Criteria, dBA (L_{eq})[a]	Exceedance over Significance Criteria	Significant Impact?
R1	57.3	49.4	58.0	62.3	0.0	No
R2	56.4	48.9	57.1	61.4	0.0	No
R3	57.8	46.4	58.1	62.8	0.0	No
R4	50.2	39.3	50.5	55.2	0.0	No
R5	63.6	51.4	63.9	68.6	0.0	No
R6	54.4	39.6	54.5	59.4	0.0	No
R7	63.0	50.1	63.2	68.0	0.0	No
R8	60.5	37.8	60.5	65.5	0.0	No
R9	54.4	36.7	54.5	59.4	0.0	No
R10	49.0	38.5	49.4	54.0	0.0	No
R11	57.7	43.2	57.9	62.7	0.0	No
R12	61.9	39.7	61.9	66.9	0.0	No
R13	52.4	42.9	52.9	57.4	0.0	No
R14	58.8	36.0	58.8	63.8	0.0	No

[a] *Significance criteria are equivalent to the measured daytime or nighttime ambient noise levels, whichever is lower (see Table IV.H-7 on page IV.H-25) plus 5 dBA, per the City of Los Angeles Noise Regulations. If the estimated noise levels exceed those significance criteria, a noise impact is identified.*

Source: AES, 2022. See Appendix L of this Draft EIR.

receptor location R5, which would be below the existing ambient noise levels. As such, the estimated ambient noise levels at all off-site receptor locations with the addition of the Project's mechanical equipment would be below the significance criterion of 5 dBA (L_{eq}) above ambient noise levels. Therefore, noise impacts from mechanical equipment would be less than significant.

Outdoor Spaces

As discussed in Section II, Project Description, of this Draft EIR, the Project would include various outdoor spaces, including plazas at the ground level of Block 1 and Block 5/6, including the Promenade, Transit Square, and NoHo Square. In addition, there would be outdoor spaces at the proposed buildings at Blocks 1 through 8. Noise sources associated with outdoor uses typically include noise from people gathering and conversing. For this operational noise analysis, published noise levels of 65 dBA for a male and 62 dBA for a female speaking in a raised voice were used for analyzing potential noise impacts

from people gathering at the outdoor spaces.[52] In order to analyze a typical noise scenario, it was assumed that up to 50 percent of the maximum number of people (half of which would be male and the other half female) anticipated for each outdoor open space identified in Table IV.H-18 on page IV.H-62 would be talking at the same time. In addition, the hours of operation for use of the outdoor areas were assumed to be from 7:00 A.M. to 2:00 A.M.

An additional potential noise source would be the use of an outdoor sound system (e.g., music or other sounds broadcast through an outdoor mounted amplified speaker system) at the outdoor spaces. As set forth in Project Design Feature NOI-PDF-5, amplified sound system will be designed so as not to exceed the maximum noise levels as shown in Table IV.H-18, to ensure that the amplified sound system would not exceed the significance criteria (i.e., an increase of 5 dBA L_{eq}) at any off-site noise-sensitive receptor location.

Table IV.H-19 on page IV.H-63 presents the estimated noise levels at the off-site sensitive receptors resulting from the use of outdoor areas. The estimated noise levels were calculated with the assumption that all outdoor spaces would be fully occupied and operating concurrently to represent a worst-case noise analysis. As presented in Table IV.H-19, the estimated noise levels from the outdoor spaces would range from 35.4 dBA (L_{eq}) at receptor location R4 to 60.9 dBA (L_{eq}) at receptor location R3. The estimated ambient noise levels with the addition of the noise levels generated by the Project's outdoor spaces would be below the significance criterion of 5 dBA (L_{eq}) above ambient noise levels (based on the measured ambient noise level) at all off-site receptor locations. **As such, noise impacts from the use of the outdoor spaces would be less than significant.**

The Project would include special events (such as music performances or movies) at the NoHo Square. For the noise analysis, noise levels of 75 dBA and 71 dBA (L_{eq}) at a distance of 3.3 feet for males and females (speaking in loud voice), respectively, were Used.[53] As specified in Project Design Feature NOI-PDF-6, the proposed amplified sound system for special events would generate a sound level of approximately 90 dBA (L_{eq}) at a distance of 50 feet. Table IV.H-20 on page IV.H-64 presents the estimated special event noise levels at the off-site sensitive receptors. As presented in Table IV.H-20, the estimated noise levels from the special events at outdoor spaces would range from 18.4 dBA (L_{eq}) at receptor location R4 to 60.6 dBA (L_{eq}) at receptor location R3. The estimated ambient noise levels with the addition of the noise levels generated by the

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[52] *Harris, Cyril M., Handbook of Acoustical Measurements and Noise Control, Third Edition, 1991, Table 16.1.*

[53] *Harris, Cyril M., Handbook of Acoustical Measurements and Noise Control, Third Edition, 1991, Table 16.1.*

Table IV.H-18
Outdoor Use Analysis Assumptions

Outdoor Space		Approximate Area (sf)	Estimated Total Number of People[a]	Amplified Sound System at 25 feet Distance, dBA (L_{eq})
Block 0	– West	26,000	1,733	—
	– Transit Plaza	39,590	2,639	—
Block 1	– Level 1 Plaza	12,885	859	—
	– Level 4 Amenity	16,000	1,067	75
	– Roof Amenity	6,000	400	80
Block 2	– Level 4 Amenity	23,000	1,533	75
Block 3	– Level 2 Courtyard	11,205	747	80
	– Level 5 Amenity	1,225	82	75
	– Level 6 Amenity	515	34	75
Block 4	– Level 3 Pool Deck	5,410	361	75
	– Level 3 Courtyard	9,240	616	75
	– Level 6 Amenity (N)	1,450	97	75
	– Level 6 Amenity (S)	2,015	134	75
Block 5/6	– Level 1 NoHo Square	20,475	1,365	80
	– Level 1 Promenade	27,160	1,811	—
	– Level 2 Common	1,200	80	80
	– Level 2 Deck	1,635	109	80
	– Level 6 Courtyard	11,400	760	75
Block 7	– Level 1 Courtyard	1,800	120	—
	– Level 2 Courtyard	3,257	217	80
	– Level 5 Amenity	1,000	67	80
Block 8	– Level 1 Plaza	12,700	847	—
	– Level 7 Courtyard	20,100	1,340	80

sf = square feet

[a] *Based on maximum 15 square feet per person, per the Building Code. For the noise analysis, it is assumed 50 percent of the people would be speaking at the same time.*

Source: Gensler, RELM, and HKS, November 2019; AES, 2020.

Project's outdoor spaces would be below the significance criterion of 5 dBA (L_{eq}) above ambient noise levels (based on the measured ambient noise level) at all off-site receptor locations. **As such, noise impacts from the special event would be less than significant without mitigation measures.**

Table IV.H-19
Estimated Noise Levels from Outdoor Uses

Receptor Location	Existing Ambient Noise Levels (dBA (L_{eq}))	Estimated Noise Levels from Outdoor Uses (dBA (L_{eq}))	Ambient + Project Noise Levels (dBA (L_{eq}))	Significance Criteria[a]	Exceedance over Significance Criteria	Significant Impact?
R1	57.3	59.6	61.6	62.3	0.0	No
R2	56.4	54.3	58.5	61.4	0.0	No
R3	57.8	60.9	62.6	62.8	0.0	No
R4	50.2	35.4	50.3	55.2	0.0	No
R5	63.6	58.1	64.7	68.6	0.0	No
R6	54.4	48.9	55.5	59.4	0.0	No
R7	63.0	53.3	63.4	68.0	0.0	No
R8	60.5	44.6	60.6	65.5	0.0	No
R9	54.4	48.3	55.4	59.4	0.0	No
R10	49.0	46.3	50.9	54.0	0.0	No
R11	57.7	48.5	58.2	62.7	0.0	No
R12	61.9	50.0	62.2	66.9	0.0	No
R13	52.4	46.7	53.4	57.4	0.0	No
R14	58.8	45.1	59.0	63.8	0.0	No

[a] *Significance criteria are equivalent to the measured daytime or nighttime ambient noise levels, whichever is lower (see Table IV.H-7 on page IV.H-25) plus 5 dBA, per the City of Los Angeles Noise Regulations. If the estimated noise levels exceed those significance criteria, a noise impact is identified.*

Source: AES, 2020. See Appendix L of this Draft EIR.

Parking Facilities

As discussed in Section II, Project Description, of this Draft EIR, the Project would provide up to 3,313 vehicle parking spaces for Project uses within the various subterranean and above ground parking structures. The Project is also required to provide up to 750 replacement parking spaces for Metro users. Sources of noise within the parking garages would primarily include vehicular movements and engine noise, doors opening and closing, and intermittent car alarms. Noise levels within the parking garages would fluctuate with the amount of automobile and human activity. Table IV.H-21 on page IV.H-65 presents the estimated noise levels from the at- and above-grade on-site parking levels at the off-site receptor locations. As indicated in Table IV.H-21, the estimated noise levels from the parking facilities would range from 31.7 dBA (L_{eq}) at receptor location R12 to 55.1 dBA (L_{eq}) at receptor location R13. The estimated ambient noise levels with the addition of the noise levels generated by the Project parking facilities would be below the significance criterion of 5 dBA (L_{eq}) above the ambient noise levels (based on the lowest measured ambient). **Therefore, noise impacts from the parking facilities would be less than significant.**

Table IV.H-20
Estimated Noise Levels from Special Events

Receptor Location	Existing Ambient Noise Levels (dBA (L_{eq}))	Estimated Noise Levels from Special Events (dBA (L_{eq}))	Ambient + Project Noise Levels (dBA (L_{eq}))	Significance Criteria[a]	Exceedance Over Significance Criteria	Significant Impact?
R1	57.3	26.8	57.3	62.3	0.0	No
R2	56.4	32.3	56.4	61.4	0.0	No
R3	57.8	60.6	62.4	62.8	0.0	No
R4	50.2	18.4	50.2	55.2	0.0	No
R5	63.6	47.4	63.7	68.6	0.0	No
R6	54.4	26.8	54.4	59.4	0.0	No
R7	63.0	45.7	63.1	68.0	0.0	No
R8	60.5	37.2	60.5	65.5	0.0	No
R9	54.4	44.4	54.8	59.4	0.0	No
R10	49.0	33.4	49.1	54.0	0.0	No
R11	57.7	33.4	57.7	62.7	0.0	No
R12	61.9	47.7	62.1	66.9	0.0	No
R13	52.4	39.1	52.6	57.4	0.0	No
R14	58.8	43.7	58.9	63.8	0.0	No

[a] *Significance criteria are equivalent to the measured daytime or nighttime ambient noise levels, whichever is lower (see Table IV.H-7 on page IV.H-25) plus 5 dBA, per the City of Los Angeles Noise Regulations. If the estimated noise levels exceed those significance criteria, a noise impact is identified.*

Source: AES, 2022. See Appendix L of this Draft EIR.

Loading Dock and Trash Collection Areas

The Project includes several loading areas located within the buildings at Blocks 1, 2, 4, 5/6, and 8. In addition, as provided above in Project Design Feature NOI-PDF-4, all loading docks will be acoustically screened from off-site noise-sensitive receptors. In addition, retail delivery for Block 6 may occur at the exterior on the north side of the building. Delivery trucks would park along the internal District Way (on the north side of Block 5) and utilize hand cart for delivery to Block 6 or if possible, with a small delivery van driving onto the plaza to Block 6. Deliveries would generally occur in accordance with the LAMC. The Project trash compactors would be located inside the building at Blocks 2, 3, 4, and 7. Noise sources associated with the loading dock and trash collection area would include delivery/trash collection trucks and operation of the trash compactor. Based on measured noise levels from typical loading dock facilities and trash compactors, delivery/ trash collection trucks and trash compactors could generate noise levels of approximately

Table IV.H-21
Estimated Noise Levels from At-grade and Above-grade Parking Facilities

Receptor Location	Existing Ambient Noise Levels, dBA (L_{eq})	Estimated Noise Levels from Parking Facilities, dBA (L_{eq})	Ambient + Project Noise Levels, dBA (L_{eq})	Significance Criteria[a]	Exceedance Over Significance Criteria	Significant Impact?
R1	57.3	40.1	57.4	62.3	0.0	No
R2	56.4	42.4	56.6	61.4	0.0	No
R3	57.8	41.1	57.9	62.8	0.0	No
R4	50.2	35.1	50.3	55.2	0.0	No
R5	63.6	41.2	63.6	68.6	0.0	No
R6	54.4	41.4	54.6	59.4	0.0	No
R7	63.0	50.4	63.2	68.0	0.0	No
R8	60.5	43.3	60.6	65.5	0.0	No
R9	54.4	40.2	54.6	59.4	0.0	No
R10	49.0	38.7	49.4	54.0	0.0	No
R11	57.7	38.7	57.8	62.7	0.0	No
R12	61.9	31.7	61.9	66.9	0.0	No
R13	52.4	55.1	57.0	57.4	0.0	No
R14	58.8	48.0	59.1	63.8	0.0	No

[a] *Significance criteria are equivalent to the measured daytime or nighttime ambient noise levels, whichever is lower (see Table IV.H-7 on page IV.H-25) plus 5 dBA, per the City of Los Angeles Noise Regulations. If the estimated noise levels exceed those significance criteria, a noise impact is identified.*

Source: AES, 2022. See Appendix L of this Draft EIR.

71 dBA (L_{eq}) and 66 dBA (L_{eq}), respectively, at a distance of 50 feet.[54] In addition, the trash compactors would be located inside an enclosed room, which would be effectively shielded to the off-site sensitive receptors. Table IV.H-22 on page IV.H-66 presents the estimated noise levels at the off-site receptor locations from operation of the loading dock and trash compactor. As indicated in Table IV.H-22, the estimated noise from the loading dock and trash compactor would range from 23.9 dBA (L_{eq}) at receptor location R12 to 61.4 dBA (L_{eq}) at receptor location R9, which would be below the significance criterion of 5 dBA (L_{eq}) above ambient noise levels at all offsite sensitive receptors. **Therefore, noise impacts from loading dock and trash compactor operations would be less than significant.**

[54] *RK Engineering Group, Inc., Wal-Mart/Sam's Club Reference Noise Level Study, 2003.*

Table IV.H-22
Estimated Noise Levels from Loading Dock and Trash Compactor

Receptor Location	Existing Ambient Noise Levels (dBA (L_{eq}))	Estimated Noise Levels from Loading Dock and Trash Compactor (dBA (L_{eq}))	Ambient + Project Noise Levels (dBA (L_{eq}))	Significance Criteria[a]	Exceedance Over Significance Criteria	Significant Impact?
R1	62.1	43.9	62.2	67.1	0.0	No
R2	61.6	60.5	64.1	66.6	0.0	No
R3	64.6	48.9	64.7	69.6	0.0	No
R4	60.4	24.6	60.4	65.4	0.0	No
R5	68.3	48.0	68.3	73.3	0.0	No
R6	54.6	25.6	54.6	59.6	0.0	No
R7	67.2	41.0	67.2	72.2	0.0	No
R8	62.9	32.3	62.9	67.9	0.0	No
R9	58.3	61.4	63.1	63.3	0.0	No
R10	57.0	31.7	57.0	62.0	0.0	No
R11	58.2	24.2	58.2	63.2	0.0	No
R12	68.1	23.9	68.1	73.1	0.0	No
R13	61.1	33.4	61.1	66.1	0.0	No
R14	61.4	33.3	61.4	66.4	0.0	No

[a] *Significance criteria are equivalent to the measured daytime ambient noise levels (see Table IV.H-7 on page IV.H-25) plus 5 dBA, per the City of Los Angeles Noise Regulations. If the estimated noise levels exceed those significance criteria, a noise impact is identified. Significance criteria based on the daytime ambient noise levels, loading and trash compactors would only operate during the daytime hours, except for the retail delivery at Block 6. As provided in the Noise and Vibration Calculation Worksheets, the estimated noise levels from the retail delivery at Block 6 would be minimum 10 dBA below the nighttime ambient noise level at all off-site noise receptors, which would not increase the ambient by 5 dBA.*

Source: AES, 2022. See Appendix L of this Draft EIR.

Transit Center

The Metro G (Orange) Line Terminus within Block 0 West would be renovated with the consolidation of the Metro G (Orange) Line, LADOT Commuter Express, as well as other local and regional bus lines in a single transit center. The renovated transit center would add additional bus operations with up to 489 bus trips per day, including Metro Lines 152, 154, 162, 183, 224, 501; Burbank Buses (NoHo to Airport Line and NoHo to Media District Line); and Santa Clarita 757 bus line.[55,56] The transit operations at the Project Site

[55] *Bus lines serving the transit center are subject to change.*

is anticipated to be increased by 38 percent over the existing conditions.[57] Table IV.H-23 on page IV.H-68 presents the estimated noise levels at the off-site receptor locations from Transit Center (bus operation). As indicated in Table IV.H-23, the estimated noise from the transit center would range from 16.3 dBA (L_{eq}) at receptor location R4 to 60.1 dBA (L_{eq}) at receptor location R7. The maximum noise increase due to the increase in transit operations would be 1.8 dBA at receptor location R7 (closest to the transit center), which would be below the significance criterion of 5 dBA (L_{eq}) above ambient noise levels at all off-site sensitive receptors. **Therefore, noise impacts from the transit center operations would be less than significant.**

(ii) Off-Site Mobile Noise Sources

Future Plus Project

As discussed in the Transportation Study, the Project is expected to generate a net increase of 8,988 daily vehicle trips in Phase 1[58] and a total net increase of 14,823 by Project full buildout.[59,60] As such, Project-related traffic would increase the existing traffic volumes along the roadway segments in the study area when compared with Future without Project conditions. This increase in roadway traffic volumes was analyzed to determine if any traffic-related noise impacts would result from operation of the Project, under Phase 1 and Phase 2.

Table IV.H-24 on page IV.H-69 provides a summary of the roadway noise impact analysis. The calculated CNEL levels are conservatively calculated in front of the roadways (i.e., no barriers between the roadway and receptor) and do not account for the presence of any physical sound barriers or intervening structures.[61] As shown in Table IV.H-24, the Project would result in a maximum noise increase of 4.3 dBA and

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[56] *Metro schedule (2020) for Lines 152, 154, 162, 183, 224, 501; City of Burbank Bus Schedule (2020) for the green route bus line; and City of Santa Clara Transit Commuter Schedule (2019) for Route 757. See Appendix L.*

[57] *Kimley Horn, 2021, based on projected bus traffic data provided by Metro.*

[58] *As discussed in Section IV.K, Transportation, of this Draft EIR, for purposes of the VMT analysis, Phase 1 includes the construction of Block 0 (Consolidated Transit Center), Block 5/6, Block 7, Block 8, and both the East and West Off-Site Metro Parking Areas.*

[59] *Gibson Transportation Consulting, Inc., Transportation Assessment for the District NoHo Mixed-Use Project, October 2021. See Appendix R of this Draft EIR.*

[60] *As discussed in Section II, Project Description, of this Draft EIR, the Project includes a potential land use exchange of up to 75,000 square feet of retail/restaurant uses for up to 75,000 square feet of office space should future market conditions warrant. Under this scenario, the Project's net increase in average daily trips would be 9,779.*

[61] *The CNEL calculation is based on the traffic mix/distributions as provided in Table IV.H-8 on page IV.H-26.*

Table IV.H-23
Estimated Noise Levels from Transit Center

Receptor Location	Existing Ambient Noise Levels (dBA (L_{eq}))	Estimated Noise Levels from Transit Center (dBA (L_{eq}))	Ambient + Project Noise Levels (dBA (L_{eq}))	Significance Criteria[a]	Exceedance Over Significance Criteria	Significant Impact?
R1	57.3	21.0	57.3	62.3	0.0	No
R2	56.4	33.7	56.4	61.4	0.0	No
R3	57.8	47.9	58.2	62.8	0.0	No
R4	50.2	16.3	50.2	55.2	0.0	No
R5	63.6	53.6	64.0	68.6	0.0	No
R6	54.4	36.7	54.5	59.4	0.0	No
R7	63.0	60.1	64.8	68.0	0.0	No
R8	60.5	41.9	60.6	65.5	0.0	No
R9	54.4	29.1	54.4	59.4	0.0	No
R10	49.0	39.6	49.5	54.0	0.0	No
R11	57.7	48.6	58.2	62.7	0.0	No
R12	61.9	33.0	61.9	66.9	0.0	No
R13	52.4	36.9	52.5	57.4	0.0	No
R14	58.8	36.6	58.8	63.8	0.0	No

[a] *Significance criteria are equivalent to the measured daytime ambient noise levels (see Table IV.H-7 on page IV.H-25) plus 5 dBA, per the City of Los Angeles Noise Regulations. If the estimated noise levels exceed those significance criteria, a noise impact is identified. Significance criteria based on the daytime ambient noise levels, loading and trash compactors would only operate during the daytime hours.*

Source: AES, 2022. See Appendix L of this Draft EIR.

4.2 dBA along the roadway segment of Weddington Street (between Tujunga Avenue and Bakman Avenue) under Phase 1 and Phase 2, respectively. The estimated noise increase along all other analyzed roadway segments would be 3.3 dBA or lower. The estimated noise increase due to the Project-generated traffic would be below the 5-dBA significance criterion along each of the roadway segments analyzed as the estimated noise level is less than 70 dBA CNEL. The estimated increase in traffic noise levels as compared to Future without Project conditions would be below both the 3-dBA CNEL (applicable to noise levels less than 70 dBA CNEL) and the 5-dBA CNEL (applicable to noise levels 70 dBA CNEL or higher) significance criteria. **Therefore, traffic noise impacts under Future Plus Project conditions would be less than significant.**

Existing Plus Project

The analysis of traffic noise impacts provided above was based on the incremental increase in traffic noise levels attributable to the Project as compared to Future Without

Table IV.H-24
Roadway Traffic Noise Impacts—Future Plus Project

Roadway Segment	Adjacent Land Use	Calculated Traffic Noise Levels[a] (CNEL (dBA))		Increase in Noise Levels due to Project (CNEL (dBA)) (Phase 1/ Phase 2)	Significance Criteria (Noise Increase),[b] (CNEL (dBA))	Significant Impact?
		Future Without Project (Phase 1/Phase 2)	Future Plus Project (Phase 1/Phase 2)			
Tujunga Avenue						
– Between Burbank Blvd. and Cumpston St.	Commercial	64.0/64.2	65.4/65.7	1.4/1.5	5	No
– Between Cumpston St. and Chandler Blvd.	Residential	65.7/65.9	66.8/67.1	1.1/1.2	5	No
– Between Chandler Blvd. and Magnolia St.	Residential, Hotel, School, Religious, Park	67.2/67.4	68.0/68.6	0.8/1.2	5	No
– Between Magnolia St. and Camarillo St.	Residential, Park	69.7/70.0	70.1/70.5	0.4/0.5	3	No
Lankershim Boulevard						
– Between Burbank Blvd. and Cumpston St.	Commercial	69.1/69.3	69.0/69.3	0.0/0.0	5	No
– Between Cumpston St. and Chandler Blvd.	Residential	68.8/69.0	69.0/69.3	0.2/0.3	5	No
– Between Chandler Blvd. and Magnolia St.	Theater, Studio	68.2/68.4	69.2/69.7	1.0/1.3	5	No
– Between Magnolia St. and Camarillo St.	Residential, Religious	68.5/68.7	68.7/69.1	0.2/0.4	5	No
Vineland Avenue						
– Between Burbank Blvd. and Chandler Blvd.	School	70.0/70.2	70.1/70.3	0.1/0.1	3	No
– Between Chandler Blvd. and Magnolia St.	Residential, Studio	69.9/70.1	70.1/70.4	0.2/0.3	3	No
– Between Magnolia St. and Camarillo St.	Residential, Religious	69.5/69.7	69.6/69.9	0.1/0.2	5	No
Fair Avenue						
– Between Cumpston St. and Chandler Blvd.	Residential	63.8/64.0	64.1/64.5	0.3/0.5	5	No
Colfax Avenue						
– Between Burbank Blvd. and Chandler Blvd.	Residential	67.3/67.5	67.6/67.9	0.3/0.4	5	No
Elmer Avenue						
– Between Burbank Blvd. and Cumpston St.	Residential	59.3/59.5	59.3/59.5	0.0/0.0	5	No
Klump Avenue						
– Between Burbank Blvd. and Cumpston St.	Residential	59.5/59.7	59.8/60.0	0.3/0.3	5	No
Bonner Avenue						
– Between Burbank Blvd. and Cumpston St.	Residential	57.2/57.4	57.2/57.4	0.0/0.0	5	No

Table IV.H-24 (Continued)
Roadway Traffic Noise Impacts—Future Plus Project

Roadway Segment	Adjacent Land Use	Calculated Traffic Noise Levels[a] (CNEL (dBA))		Increase in Noise Levels due to Project (CNEL (dBA)) (Phase 1/ Phase 2)	Significance Criteria (Noise Increase),[b] (CNEL (dBA))	Significant Impact?
		Future Without Project (Phase 1/Phase 2)	Future Plus Project (Phase 1/Phase 2)			
Cumpston Avenue						
– Between Camellia Ave. and Tujunga Ave.	Residential	60.9/61.1	60.9/61.1	0.0/0.0	5	No
– Between Tujunga Ave. and Lankershim Blvd.	Residential	63.8/64.0	64.2/64.6	0.4/0.6	5	No
– Between Lankershim Blvd. and Fair Ave.	Residential	67.1/67.4	66.4/67.6	0.0/0.2	5	No
– Between Fair Ave. and Case Ave.	Residential	65.3/65.5	64.9/65.6	0.0/0.1	5	No
Burbank Boulevard						
– Between Colfax Ave. and Lankershim Blvd.	Residential, Religious	70.2/70.4	70.3/70.5	0.1/0.1	3	No
– Between Lankershim Blvd. and Vineland Ave.	Residential, Hotel	68.2/68.5	68.2/68.5	0.0/0.0	5	No
Chandler Boulevard						
– Between Colfax Ave. and Tujunga Ave.	Residential	67.6/67.8	67.8/68.0	0.2/0.2	5	No
– Between Tujunga Ave. and Lankershim Blvd.	Commercial	67.9/68.1	67.4/67.9	0.0/0.0	5	No
– Between Lankershim Blvd. and Vineland Ave.	Residential, School	68.3/68.5	69.0/69.7	0.7/1.2	5	No
Weddington Street						
– Between Tujunga Ave. and Bakman Ave.	Hotel, Religious	61.2/61.5	65.5/65.7	4.3/4.2	5	No
– Between Bakman Ave. and Lankershim Blvd.	Theater, Studio	62.1/62.3	65.4/65.6	3.3/3.3	5	No
– Between Lankershim Blvd. and Blakeslee Ave.	Residential, Studio	64.8/65.0	64.8/65.0	0.0/0.0	5	No
Magnolia Boulevard						
– Between CA-170. and Tujunga Ave.	Park	70.7/70.9	71.0/71.4	0.3/0.5	3	No
– Between Tujunga Ave. and Lankershim Blvd.	School	70.0/70.2	70.2/70.5	0.2/0.3	3	No
– Between Lankershim Blvd. and Vineland Ave.	Residential, Theater	69.1/69.3	69.2/69.4	0.1/0.1	5	No

Table IV.H-24 (Continued)
Roadway Traffic Noise Impacts—Future Plus Project

Roadway Segment	Adjacent Land Use	Calculated Traffic Noise Levels[a] (CNEL (dBA))		Increase in Noise Levels due to Project (CNEL (dBA)) (Phase 1/ Phase 2)	Significance Criteria (Noise Increase),[b] (CNEL (dBA))	Significant Impact?
		Future Without Project (Phase 1/Phase 2)	Future Plus Project (Phase 1/Phase 2)			

[a] *Detailed calculation worksheets are included in Appendix L of this Draft EIR.*

[b] *Significance criteria are equivalent to an increase of 3 dBA or more if the estimated noise levels (Future plus Project) fall within the "normally unacceptable" or "clearly unacceptable" land use categories or an increase of 5 dBA or more if the estimated noise levels fall within the "normally acceptable" or "conditionally acceptable" land use categories, per the City of Los Angeles Noise Element. If the estimated noise level increases exceed those significance criteria, a noise impact is identified.*

Source: AES, 2020.

Project conditions. An additional analysis was performed to determine the potential noise impacts based on the increase in noise levels due to Project-related traffic compared with the existing baseline traffic noise conditions.

Table IV.H-25 on page IV.H-73 provides a summary of the roadway noise impact analysis as compared with existing conditions. As shown in Table IV.H-25, the Project would result in a maximum increase of up to 4.4 dBA and 4.5 dBA in traffic-related noise levels along the roadway segment of Weddington Street (between Tujunga Avenue and Bakman Avenue) under Phase 1 and Phase 2, respectively. At other analyzed roadway segments, the increase in traffic-related noise levels would be 3.6 dBA or less. The estimated increase in traffic noise levels as compared to existing conditions would be below both the 3-dBA CNEL (applicable to noise levels less than 70 dBA CNEL) and the 5-dBA CNEL (applicable to noise levels 70 dBA CNEL or higher) significance criteria. **Therefore, traffic noise impacts under Existing Plus Project conditions would be less than significant.**

(iii) Composite Noise Level Impacts from Project Operations

In addition to considering the potential noise impacts to neighboring noise-sensitive receptors from each specific on-site and off-site noise source (e.g., mechanical equipment, outdoor areas, parking, loading and trash compactor, and off-site traffic), an evaluation of potential composite noise level increases (i.e., noise levels from all on-site and off-site noise sources combined) at the analyzed sensitive receptor locations was also performed. The composite noise analysis uses the CNEL noise metric to determine the contributions at the noise-sensitive receptor locations in the vicinity of the Project Site and Off-Site Metro Parking Areas.

Table IV.H-26 on page IV.H-76 presents the estimated composite noise levels in terms of CNEL at the off-site sensitive receptor locations from the Project-related noise sources. As indicated in Table IV.H-26, the Project would result in an increase (relative to the existing ambient) in composite noise levels ranging from 0.7 dBA at receptor location R8 to 4.9 dBA at the receptor locations R9 and R13. The composite noise levels from Project operation would be below the 5-dBA significance criterion at the receptor locations R1 through R4, R6, and R8 through R14 (applicable to noise levels of less than 70 dBA CNEL for the Residential Multi-Family land use category). The estimated composite CNEL noise increase at receptor locations R5 and R7 would be below the 3-dBA significance (applicable to noise levels of 70 dBA CNEL or greater). **As such, composite noise level impacts due to Project operations would be less than significant.**

Table IV.H-25
Roadway Traffic Noise Impacts—Existing Plus Project

Roadway Segment	Adjacent Land Use	Calculated Traffic Noise Levels[a] (CNEL (dBA))		Increase in Noise Levels due to Project (CNEL (dBA)) (Phase 1/ Phase 2)	Significance Criteria (Noise Increase),[b] (CNEL (dBA))	Significant Impact?
		Existing Without Project	Existing Plus Project (Phase 1/Phase 2)			
Tujunga Avenue						
– Between Burbank Blvd. and Cumpston St.	Commercial	63.3	64.8/64.8	1.5/1.5	5	No
– Between Cumpston St. and Chandler Blvd.	Residential	65.3	66.3/66.5	1.0/1.2	5	No
– Between Chandler Blvd. and Magnolia St.	Residential, Hotel, School, Religious, Park	67.0	67.8/68.2	0.8/1.2	5	No
– Between Magnolia St. and Camarillo St.	Residential, Park	69.4	69.8/70.0	0.4/0.6	3	No
Lankershim Boulevard						
– Between Burbank Blvd. and Cumpston St.	Commercial	68.7	68.6/68.8	0.0/0.1	5	No
– Between Cumpston St. and Chandler Blvd.	Residential	68.2	68.4/68.6	0.2/0.4	5	No
– Between Chandler Blvd. and Magnolia St.	Theater, Studio	67.7	68.8/69.1	1.1/1.4	5	No
– Between Magnolia St. and Camarillo St.	Residential, Religious	68.1	68.4/68.6	0.3/0.5	5	No
Vineland Avenue						
– Between Burbank Blvd. and Chandler Blvd.	School	69.6	69.7/69.8	0.1/0.2	5	No
– Between Chandler Blvd. and Magnolia St.	Residential, Studio	69.5	69.7/69.8	0.2/0.3	5	No
– Between Magnolia St. and Camarillo St.	Residential, Religious	69.1	69.3/69.4	0.2/0.3	5	No
Fair Avenue						
– Between Cumpston St. and Chandler Blvd.	Residential	63.4	63.8/64.0	0.4/0.6	5	No
Colfax Avenue						
– Between Burbank Blvd. and Chandler Blvd.	Residential	67.0	67.3/67.4	0.3/0.4	5	No
Elmer Avenue						
– Between Burbank Blvd. and Cumpston St.	Residential	59.0	59.0/59.1	0.0/0.1	5	No
Klump Avenue						
– Between Burbank Blvd. and Cumpston St.	Residential	59.2	59.5/59.6	0.3/0.4	5	No
Bonner Avenue						
– Between Burbank Blvd. and Cumpston St.	Residential	57.0	57.0/57.0	0.0/0.0	5	No

Table IV.H-25 (Continued)
Roadway Traffic Noise Impacts—Existing Plus Project

Roadway Segment	Adjacent Land Use	Calculated Traffic Noise Levels[a] (CNEL (dBA))		Increase in Noise Levels due to Project (CNEL (dBA)) (Phase 1/ Phase 2)	Significance Criteria (Noise Increase),[b] (CNEL (dBA))	Significant Impact?
		Existing Without Project	Existing Plus Project (Phase 1/Phase 2)			
Cumpston Avenue						
– Between Camellia Ave. and Tujunga Ave.	Residential	59.4	59.4/59.4	0.0/0.0	5	No
– Between Tujunga Ave. and Lankershim Blvd.	Residential	63.0	63.4/63.7	0.4/0.7	5	No
– Between Lankershim Blvd. and Fair Ave.	Residential	66.7	66.0/67.1	0.0/0.4	5	No
– Between Fair Ave. and Case Ave.	Residential	64.8	64.5/65.0	0.0/0.2	5	No
Burbank Boulevard						
– Between Colfax Ave. and Lankershim Blvd.	Residential, Religious	69.7	69.8/69.9	0.1/0.2	5	No
– Between Lankershim Blvd. and Vineland Ave.	Residential, Hotel	67.7	67.7/67.7	0.0/0.0	5	No
Chandler Boulevard						
– Between Colfax Ave. and Tujunga Ave.	Residential	67.3	67.5/67.5	0.2/0.2	5	No
– Between Tujunga Ave. and Lankershim Blvd.	Commercial	67.8	67.3/67.5	0.0/0.0	5	No
– Between Lankershim Blvd. and Vineland Ave.	Residential, School	67.7	68.5/69.0	0.8/1.3	5	No
Weddington Street						
– Between Tujunga Ave. and Bakman Ave.	Hotel, Religious	61.0	65.4/65.5	4.4/4.5	5	No
– Between Bakman Ave. and Lankershim Blvd.	Theater, Studio	61.8	65.3/65.4	3.5/3.6	5	No
– Between Lankershim Blvd. and Blakeslee Ave.	Residential, Studio	64.5	64.5/64.5	0.0/0.0	5	No
Magnolia Boulevard						
– Between CA-170. and Tujunga Ave.	Park	69.9	70.2/70.4	0.3/0.5	3	No
– Between Tujunga Ave. and Lankershim Blvd.	School	69.2	69.4/69.6	0.2/0.4	5	No
– Between Lankershim Blvd. and Vineland Ave.	Residential, Theater	68.4	68.5/68.6	0.1/0.2	5	No

Table IV.H-25 (Continued)
Roadway Traffic Noise Impacts—Existing Plus Project

Roadway Segment	Adjacent Land Use	Calculated Traffic Noise Levels[a] (CNEL (dBA))		Increase in Noise Levels due to Project (CNEL (dBA)) (Phase 1/ Phase 2)	Significance Criteria (Noise Increase),[b] (CNEL (dBA))	Significant Impact?
		Existing Without Project	Existing Plus Project (Phase 1/Phase 2)			

[a] *Detailed calculation worksheets are included in Appendix L of this Draft EIR.*

[b] *Significance criteria are equivalent to an increase of 3 dBA or more if the estimated noise levels (Future plus Project) fall within the "normally unacceptable" or "clearly unacceptable" land use categories or an increase of 5 dBA or more if the estimated noise levels fall within the "normally acceptable" or "conditionally acceptable" land use categories, per the City of Los Angeles Noise Element. If the estimated noise level increases exceed those significance criteria, a noise impact is identified.*

Source: AES, 2020.

Table IV.H-26
Composite Noise Impacts

Receptor Location	Existing Ambient Noise Levels (CNEL (dBA))	Calculated Project-Related Noise Sources (CNEL (dBA))						Project Composite Noise Levels (CNEL (dBA))	Ambient Plus Project Composite Noise Levels (CNEL (dBA))	Increase in Noise Levels Due to Project (CNEL (dBA))	Signifi-cance Criteria[a] (CNEL (dBA))	Significant Impact?
		Traffic	Mechanical	Parking	Loading/ Trash Compactor	Outdoor Spaces	Transit Center					
R1	65.1	56.6	56.1	46.8	40.4	63.7	22.6	65.1	68.1	3.0	70.1	No
R2	62.7	53.2	52.4	49.1	56.4	56.1	34.5	61.2	65.0	2.3	67.7	No
R3	64.9	63.5	50.4	42.8	47.2	64.1	46.2	67.0	69.1	4.2	69.9	No
R4	59.4	54.6	46.0	41.8	21.4	39.5	16.8	55.5	60.9	1.5	64.4	No
R5	69.7	53.3	58.1	47.9	46.2	62.1	55.1	64.6	70.9	1.2	72.7	No
R6	59.1	50.3	46.3	48.1	23.9	53.0	38.9	56.2	60.9	1.8	64.1	No
R7	71.5	54.6	56.8	56.8	39.6	57.4	62.6	65.6	72.5	1.0	74.5	No
R8	65.7	56.1	44.5	50.0	31.1	48.7	43.7	58.0	66.4	0.7	70.7	No
R9	60.1	61.3	43.4	46.9	57.3	52.4	29.3	63.3	65.0	4.9	65.1	No
R10	56.7	56.9	45.2	45.4	28.2	50.4	41.7	58.4	60.6	3.9	61.7	No
R11	62.5	63.6	48.1	42.4	21.2	49.3	45.0	64.0	66.3	3.8	67.5	No
R12	68.6	63.5	46.4	38.4	22.9	54.1	35.8	64.1	69.9	1.3	71.6	No
R13	60.6	58.3	49.6	61.8	29.4	50.8	38.7	63.8	65.5	4.9	65.6	No
R14	64.1	50.1	42.7	54.7	30.1	49.2	37.4	57.0	64.9	0.8	69.1	No

[a] *Significance criteria are equivalent to the existing ambient plus 3 dBA if the estimated noise levels (ambient plus Project) fall within the "normally unacceptable" or "clearly unacceptable" land use categories or ambient plus 5 dBA if the estimated noise levels fall within the "normally acceptable" or "conditionally acceptable" land use categories, per the City of Los Angeles Noise Element. If the estimated noise levels exceed those significance criteria, a noise impact is identified.*

Source: AES, 2022. See Appendix L of this Draft EIR.

(iv) Concurrent Construction and Operation

Phase 1 of the Project would be completed and occupied while construction of the Project Phase 2 components would be ongoing. Therefore, concurrent construction and operational noise impacts were evaluated. Based on a review of the Project construction schedule, Project Phase 1 components (Block 0, Block 5/6, Block 7, Block 8, East Lot, and West Lot) would be completed prior to Phase 2 components (Block 1, Block 2, Block 3, and Block 4). Table IV.H-27 on page IV.H-78 presents the estimated concurrent noise levels from on-site construction and operation. As indicated in Table IV.H-27, the estimated maximum concurrent construction and operation would exceed the 5-dBA significance criterion at receptor locations R1 through R5 and R9. **Therefore, temporary noise impacts associated with on-site concurrent construction and operation would be significant without mitigation measures.**

While CEQA does not generally require the analysis of Project impacts to future on-site Project receptors, an analysis of potential construction-related impacts to future on-site residents is provided for informational purposes. Such an analysis is provided because future on-site residential uses (e.g., future occupants in the completed Block 5) may be exposed to noise levels from construction activities within adjacent portions of the Project Site (Block 1, Block 2, Block 3 and Block 4) due to the distance between those uses to on-site construction activities. Should this occur, the estimated construction-related noise levels within the occupied residential areas would be up to 85 dBA (peak level with construction equipment operating adjacent to Block 5), which would exceed the ambient noise level of approximately 61.6 dBA (based on the measured ambient near the Project Site's eastern boundary, receptor Location R2). Thus, the 5-dBA significance criterion would be exceeded. Implementation of the Mitigation Measure MM-NOI-1 described below would reduce construction-related noise at Block 5 to the extent technologically feasible.

With respect to off-site noise (i.e., construction and operation traffic), the dominant noise would be due to construction truck traffic. The estimated peak period during Phase 2 construction would be the Block 1 mat foundation pour, which has the highest number of trucks and workers. Therefore, the concurrent construction and operation off-site noise analysis is based on the Block 1 mat foundation pour, which occurs during Phase 2, and the Project Phase 1 operation traffic noise levels. Table IV.H-28 on page IV.H-79 presents the estimated concurrent noise levels from off-site construction and operation. As indicated in Table IV.H-28, the estimated noise level from off-site construction and operation traffic along the anticipated truck routes would exceed the 5-dBA significance criterion along the Project Phase 2 construction truck routes. As indicated therein, the main noise impacts are due to the Project construction traffic, which ranged from 71.7 dBA along Burbank Boulevard, Lankershim Boulevard, and Chandler Boulevard to 72.9 dBA along Fair Avenue. The estimated noise levels associated with the Project off-site operational traffic ranged from 53.2 dBA along Fair Avenue to 60.8 dBA along Chandler Boulevard, which

Table IV.H-27
On-Site Concurrent Construction and Operation Noise Levels

Receptor Location	Existing Ambient Noise Levels, dBA (L_{eq})	Estimated Noise Levels from Project Construction, dBA (L_{eq})	Estimated Noise Levels from Project Operation, dBA (L_{eq})	Ambient + Project (Construction and Operation) Noise Levels, dBA (L_{eq})	Significance Criteria, dBA (L_{eq})[a]	Maximum Noise Exceedance over Significance Criteria	Significant Impact?
R1	62.1	68.1	50.8	69.2	67.1	2.1	**Yes**
R2	61.6	69.2	56.2	70.1	66.6	3.5	**Yes**
R3	64.6	68.6	59.1	70.4	69.6	0.8	**Yes**
R4	60.4	64.0	39.1	65.6	65.4	0.2	**Yes**
R5	68.3	72.9	57.4	74.3	73.3	1.0	**Yes**
R6	54.6	56.9	49.9	59.4	59.6	0.0	No
R7	67.2	67.9	53.2	70.6	72.2	0.0	No
R8	62.9	62.1	46.5	65.6	67.9	0.0	No
R9	58.3	60.6	61.6	65.1	63.3	1.8	**Yes**
R10	57.0	59.5	47.5	61.6	62.0	0.0	No
R11	58.2	60.5	46.9	62.6	63.2	0.0	No
R12	68.1	64.5	49.5	69.7	73.1	0.0	No
R13	67.0	63.7	53.1	68.8	72.0	0.0	No
R14	61.4	59.5	49.4	63.7	66.4	0.0	No

[a] *Significance criteria are equivalent to the measured daytime ambient noise levels (see Table IV.H-7 on page IV.H-25) plus 5 dBA, per the L.A. CEQA Thresholds Guide for construction activities lasting longer than 10 days in a three-month period. If the estimated construction noise levels exceed those significance criteria, a construction-related noise impact is identified.*

Source: AES, 2022. See Appendix L of this Draft EIR.

would be less than the construction traffic (ranging from 72.8 dBA to 73.8 dBA) and existing ambient noise levels (ranging from 61.6 dBA to 68.3 dBA). **Therefore, temporary noise impacts from concurrent off-site construction and operation traffic would be significant without mitigation measures.**

Table IV.H-28
Off-Site Concurrent Construction and Operation Noise Levels

Roadway	Existing Ambient Noise Levels, dBA (L_{eq})	Estimated Noise Levels from Project Phase 2 Construction Traffic, dBA (L_{eq})	Estimated Noise Levels from Project Phase 1 Traffic, dBA (L_{eq})	Ambient + Project (Construction and Operation) Noise Levels, dBA (L_{eq})	Significance Criteria, dBA (L_{eq})[a]	Maximum Noise Exceedance over Significance Criteria	Significance Impact?
Burbank Blvd.	68.3	71.7	53.4	73.4	73.3	0.1	**Yes**
Lankershim Blvd.	68.3	71.7	54.9	73.4	73.3	0.1	**Yes**
Vineland Ave.	68.3	72.3	55.8	73.8	73.3	0.5	**Yes**
Cumpston St.	64.6	72.3	--[b]	73.0	69.6	3.4	**Yes**
Chandler Blvd.	64.6	71.7	60.8	72.8	69.6	3.2	**Yes**
Fair Ave.	61.6	72.9	53.2	73.3	66.6	6.7	**Yes**

[a] *Significance criteria are equivalent to the measured daytime ambient noise levels (see Table IV.H-7 on page IV.H-25) plus 5 dBA, per the L.A. CEQA Thresholds Guide for construction activities lasting longer than 10 days in a three-month period. If the estimated construction noise levels exceed those significance criteria, a construction-related noise impact is identified.*

[b] *Not applicable, as Project Phase 1 traffic is less than existing conditions.*

Source: AES, 2020. See Appendix L of this Draft EIR.

(2) Mitigation Measures

(a) On-Site Construction Noise

As analyzed above, construction of the Project would have the potential to result in significant noise impacts at the off-site sensitive receptor locations from on-site construction activities. Therefore, the following mitigation measure is provided to reduce construction-related noise impacts:

Mitigation Measure NOI-MM-1: A temporary and impermeable sound barrier shall be erected at the locations listed below and shown on Figure IV.H-5 on page IV.H-80. Prior to any demolition work conducted for each phase being permitted, building plans shall include documentation prepared by a noise consultant verifying compliance with this measure.

During Block 0 Construction (Metro is the monitoring and enforcement agency for these mitigation measures.):

- Along the western property line of the Project Site (Block 0 West) between the construction areas and residential use at the corner of Tujunga Avenue and Chandler Boulevard (receptor location R7) and the northern portion of the park on the south side of Chandler Boulevard and approximately 300 west of Tujunga Avenue (receptor location R8). The temporary sound barrier (minimum

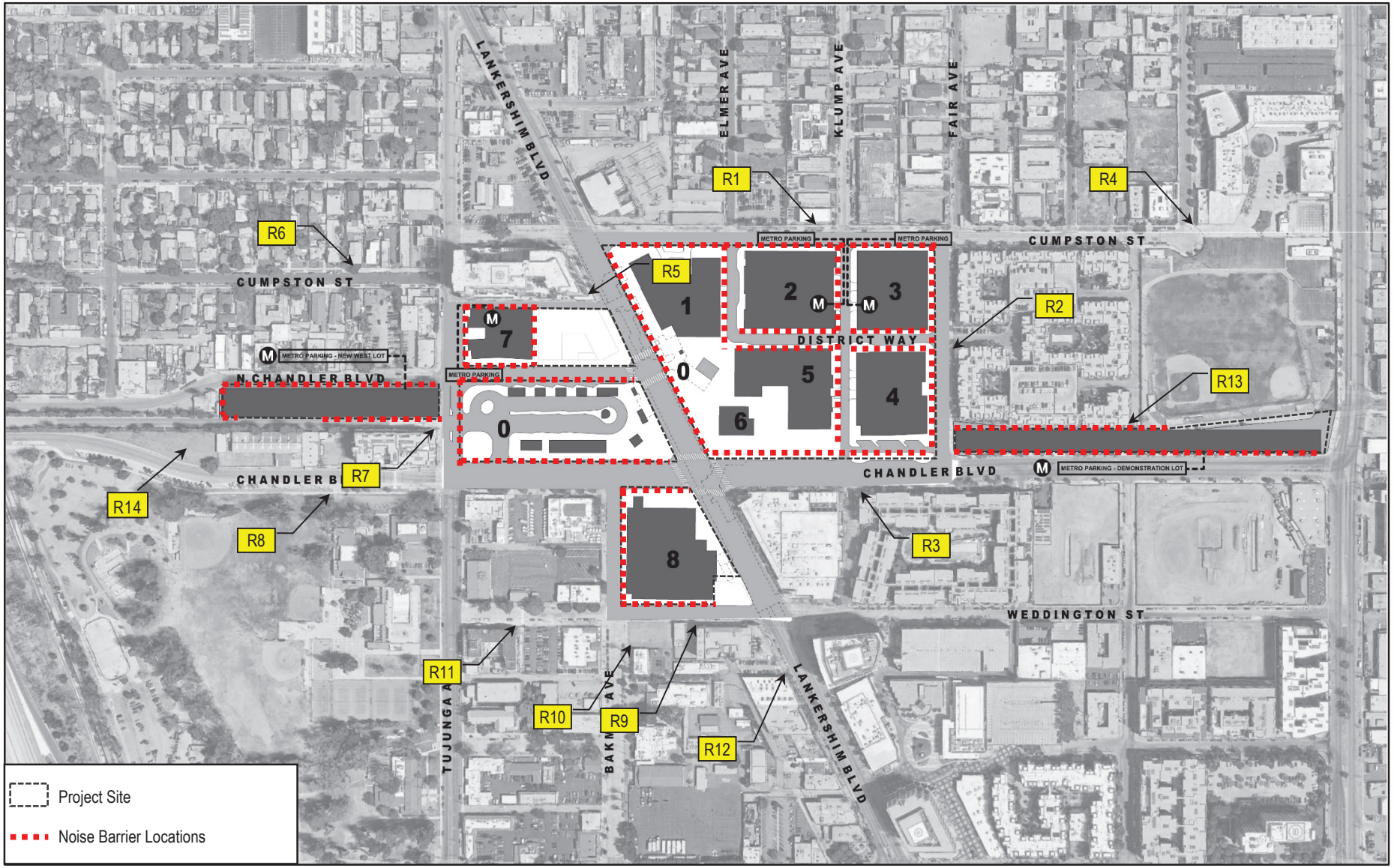

Figure IV.H-5
Temporary Construction Noise Barrier Locations

Source: AES, 2022.

15 feet high) shall be designed to provide a minimum 13-dBA noise reduction at the ground level of receptor location R7 and 8 dBA at receptor location R8.

- Along the southern property line of the Project Site (Block 0 West) between the construction areas and noise sensitive uses along Chandler Boulevard (receptor locations R9, R10, and R11). The temporary sound barrier shall be designed to provide a minimum 9-dBA noise reduction (minimum 12 feet high) at the ground level of receptor locations R9, R10, and R11.
- Along the northern property line of the Project Site (Block 0 West) between the construction areas and residential use at the corner of Lankershim Boulevard and Cumpston Street (receptor location R5). The temporary sound barrier shall be designed to provide a minimum 5-dBA noise reduction (minimum 8 feet high) at the ground level of receptor location R5.
- Along the northern, southern, western, and eastern property lines of the Project Site (Block 0 East) between the construction areas and residential use along Cumpston Street (receptor location R1), Fair Avenue (receptor location R2), Chandler Boulevard (receptor R3), and Lankershim Boulevard (receptor location R5). The temporary sound barrier shall be designed to provide a minimum 5-dBA noise reduction (minimum 8 feet high) at the ground level of receptor locations R1, R2, R3, and R5.

During Block 1 Construction:

- Along the western edge of the Project Site (Block 1) between the construction areas and residential use at the corner of Lankershim Boulevard and Cumpston Street (receptor location R5). The temporary sound barrier shall be designed to provide a minimum 9-dBA noise reduction (minimum 11 feet high) at the ground level of receptor location R5.
- Along the northeastern and eastern edges of the Project Site (Block 1) between the construction areas and residential use along Cumpston Street (receptor location R1) and Fair Avenue (receptor location R2). The temporary sound barrier shall be designed to provide a minimum 8-dBA (minimum 11 feet high) and 5-dBA (minimum 8 feet high) noise reduction at the ground level of receptor locations R1 and R2, respectively.
- Along the southern edge of the Project Site (Block 1) between the construction areas and the noise sensitive uses along Weddington Street (receptor locations R9 and R10). The temporary sound barrier shall be designed to provide a minimum 5-dBA noise reduction (minimum 8 feet high) at the ground level of receptor locations R9 and R10. Note, this temporary sound barrier would

not be required if Block 8 is substantially completed, prior to Block 1 construction.

During Block 2 Construction:

- Along the northern edge of the Project Site (Block 2) between the construction areas and the residential use along Cumpston Street (receptor location R1). The temporary sound barrier shall be designed to provide a minimum 15-dBA noise reduction (minimum 18 feet high) at the ground level of the residential use (receptor location R1).
- Along the eastern edge of the Project Site (Block 2) between the construction areas and residential use along Fair Avenue (receptor location R2). The temporary sound barrier shall be designed to provide a minimum 7-dBA noise reduction (minimum 10 feet high) at the ground level of receptor location R2. Note, this temporary sound barrier would not be required if Block 3 and Block 4 are substantially completed, prior to Block 2 construction.
- Along the southern edge of the Project Site (Block 2) between the construction areas and residential use along Chandler Boulevard (receptor location R3) and the school use south of Weddington Street (receptor location R10). The temporary sound barrier shall be designed to provide a minimum 5-dBA noise reduction (minimum 8 feet high) at the ground level of receptor locations R3 and R10. Note, this temporary sound barrier would not be required if Block 4 and Block 5/6 are substantially completed, prior to Block 2 construction.

During Block 3 Construction:

- Along the northern edge of the Project Site (Block 3) between the construction areas and the residential use along the Cumpston Street (receptor location R1). The temporary sound barrier shall be designed to provide a minimum 15-dBA noise reduction (minimum 18 feet high) at the ground level of the residential use (receptor location R1).
- Along the eastern edge of the Project Site (Block 3) between the construction areas and residential use along Fair Avenue (receptor location R2). The temporary sound barrier shall be designed to provide a minimum 15-dBA noise reduction (minimum 18 feet high) at the ground level of receptor location R2.
- Along the southern edge of the Project Site (Block 3 between the construction areas and residential use along Chandler Boulevard (receptor location R3). The temporary sound barrier shall be designed to provide a minimum 5-dBA noise reduction (minimum 8 feet high) at the ground level of receptor location R3. Note, this

temporary sound barrier would not be required if Block 4 is substantially completed, prior to Block 3 construction.

During Block 4 Construction:

- Along the northern edge of the Project Site (Block 4) between the construction areas and the residential use along the Cumpston Street (receptor location R1). The temporary sound barrier shall be designed to provide a minimum 6-dBA noise reduction (minimum 10 feet high) at the ground level of the residential use (receptor location R1).
- Along the southern edge of the Project Site (Block 4) between the construction areas and residential use along Chandler Boulevard (receptor location R3). The temporary sound barrier shall be designed to provide a minimum 13-dBA noise reduction (minimum 15 feet high) at the ground level of receptor location R3.
- Along the eastern edge of the Project Site (Block 4) between the construction areas and residential use along Fair Avenue (receptor location R2). The temporary sound barrier shall be designed to provide a minimum 15-dBA noise reduction (minimum 18 feet high) at the ground level of receptor location R2.

During Block 5/6 Construction:

- Along the northern edge of the Project Site (Block 5/6) between the construction areas and the residential use along the Cumpston Street (receptor location R1). The temporary sound barrier shall be designed to provide a minimum 8-dBA noise reduction (minimum 11 feet high) at the ground level of the residential use (receptor location R1).
- Along the southern edge of the Project Site (Block 5/6) between the construction areas and residential use along Chandler Boulevard (receptor location R3). The temporary sound barrier shall be designed to provide a minimum 12-dBA noise reduction (minimum 14 feet high) at the ground level of receptor location R3.
- Along the eastern edge of the Project Site (Block 5/6) between the construction areas and residential use along Fair Avenue (receptor location R2). The temporary sound barrier shall be designed to provide a minimum 9-dBA noise reduction (minimum 12 feet high) at the ground level of receptor location R2.
- Along the western edge of the Project Site (Block 5/6) between the construction areas and sensitive uses along Weddington Street (receptor locations R9, R10, and R11). The temporary sound barrier shall be designed to provide a minimum 5-dBA noise reduction (minimum 8 feet high) at the ground level of receptor locations R9, R10, and R11.

During Block 7 Construction:

- Along the northern property line of the Project Site (Block 7) between the construction areas and residential use at the corner of Lankershim Boulevard and Cumpston Street (receptor location R5). The temporary sound barrier shall be designed to provide a minimum 10-dBA noise reduction (minimum 12 feet high) at the ground level of receptor location R5.
- Along the western property line of the Project Site (Block 7) between the construction areas and residential use on Cumpston Street, west of Tujunga Avenue (receptor location R6). The temporary sound barrier shall be designed to provide a minimum 9-dBA noise reduction (minimum 12 feet high) at the ground level of receptor location R6.
- Along the southern property line of the Project Site (Block 7) between the construction areas and residential use at the corner of Tujunga Avenue and Chandler Boulevard (receptor location R7) and at receptor location R9. The temporary sound barrier shall be designed to provide a minimum 5-dBA noise reduction (minimum 8 feet high) at the ground level of receptor locations R7 and R9.
- Along the eastern property line of the Project Site (Block 7) between the construction areas and future residential use at the corner of Lankershim Boulevard and Chandler Boulevard (Related Project No. 1). The temporary sound barrier shall be designed to provide a minimum 15-dBA noise reduction (minimum 18 feet high) at the ground level. Note, this temporary sound barrier would only be required if the construction for the Related Project No. 1 would be completed and occupied prior the Project construction.

During Block 8 Construction:

- Along the northern property line of the Project Site (Block 8) between the construction areas and the residential uses along Cumpston Street (receptor location R1) and Fair Avenue (receptor location R2). The temporary sound barrier shall be designed to provide a minimum 5-dBA noise reduction (minimum 8 feet high) at the ground level of receptor locations R1 and R2.
- Along the southern property line of the Project Site (Block 8) between the construction areas and theater/ use (receptor location R9) and school use (receptor location R10). The temporary sound barrier shall be designed to provide a minimum 15-dBA noise reduction (minimum 18 feet high) at the ground level of receptor locations R9 and R10.
- Along the western property line of the Project Site (Block 8) between the construction areas and the hotel use (receptor location R11). The temporary sound barrier shall be designed to provide a

minimum 13-dBA noise reduction (minimum 16 feet high) at the ground level of receptor location R11.

During West Lot Construction (Metro is the monitoring and enforcement agency for these mitigation measures.):

- Along the northern property line of the West Lot between the construction areas and residential use on Cumpston Street (receptor location R6). The temporary sound barrier shall be designed to provide a minimum 13-dBA noise reduction (minimum 16 feet high) at the ground level of receptor location R6.
- Along the southern property line of the West Lot between the construction areas and residential use at the corner of Tujunga Avenue and Chandler Boulevard (receptor location R7) and the park use south of Chandler Boulevard (receptor location R8). The temporary sound barrier shall be designed to provide a minimum 15-dBA noise reduction (minimum 18 feet high) at the ground level of receptor location R7 and 11-dBA noise reduction (minimum 14 feet high) at receptor location R8.
- Along the western and portion of the southern property line of the West Lot between the construction areas and the residential use on the north side of Chandler Boulevard (receptor location R14). The temporary sound barrier shall be designed to provide a minimum 15-dBA noise reduction (minimum 18 feet high) at receptor location R14.

During East Lot Construction (Metro is the monitoring and enforcement agency for these mitigation measures.):

- Along the northern property line of the East Lot between the construction areas and residential use along Fair Avenue (receptor location R13). The temporary sound barrier shall be designed to provide a minimum 15-dBA noise reduction (minimum 18 feet high) at the ground level of receptor location R13.
- Along the southern property line between the construction areas and the residential use along Chandler Boulevard (receptor location R3). The temporary sound barrier shall be designed to provide a minimum 5-dBA noise reduction (minimum 8 feet high) at the ground level of receptor location R3.

As discussed above and shown in Table IV.H-15 and Table IV.H-16 on pages IV.H-38 and IV.H-53, respectively, the short-term noise impacts associated with off-site construction traffic would be significant along Burbank Boulevard, Lankershim Boulevard, Cumpston Street, Chandler Boulevard, and Fair Avenue, under Haul Route Option A and along Vineland Avenue, Lankershim Boulevard, Chandler Boulevard, Fair Avenue, Cumpston Street, and Magnolia Boulevards under Haul Route Option B. Conventional

mitigation measures, such as providing temporary noise barrier walls to reduce the off-site construction truck traffic noise impacts, would not be technologically feasible as the barriers would obstruct the access and visibility to the properties along the anticipated truck route. In addition, barrier walls cannot be erected on land that the Applicant does not own. There are no other technologically feasible mitigation measures that could be implemented to reduce this short-term impact.

Operation of the Project would not result in a significant noise impact during operation. Therefore, no mitigation measures are required.

(3) Level of Significance After Mitigation

(a) On-Site Construction Noise

Implementation of Mitigation Measure NOI-MM-1 provided above would reduce the Project's construction noise levels to the extent technologically feasible. As indicated in Table IV.H-29 on page IV.H-87, implementation of Mitigation Measure NOI-MM-1 (installation of temporary sound barrier) would reduce the noise generated by on-site construction activities at the off-site sensitive uses, by up to 15 dBA at receptor locations R1, R2, R7, R9, R10, R13, and R14, by up to 13 dBA at receptor location R6 and R11, by up to 12 dBA at receptor location R3, by up to 11 dBA at receptor location R8, and by up to 9 dBA at receptor location R5, which would reduce the construction noise impacts at receptor locations R6 and R8 to a less-than-significant level. However, the temporary noise barrier would only be effective at the ground level of receptor locations R1, R2, R3, R5, R7, R11, and R13 because the barriers block line-of-sight to these receptors, and thereby attenuates noise levels at grade level. The residential uses at these receptors are contained in multi-story high-rise buildings.[62] The line-of-sight from the upper floors at these receptors to the Project Site would remain unobstructed because it is not technologically feasible to construct temporary noise barriers, including moveable barriers, that would extend to the height of the buildings at these receptor locations.

In addition, noise attenuation from temporary construction noise barriers is typically limited to a maximum 15-dBA noise reduction. Other mitigation measures to reduce noise include reducing the number of construction equipment and providing a buffer zone. Construction noise levels are dependent on the number of construction equipment in use. Typically, a reduction of 50 percent in the number of construction equipment pieces would reduce the noise levels by 2 to 3 dBA (depending on the equipment type and relative distance). However, reducing the construction equipment utilized by the Project by

[62] *The 2019 California Fire Code defines high rise buildings as "every building of any type of construction or occupancy having floors used for human occupancy located more than 75 feet above the lowest floor level having building access."*

Table IV.H-29
Construction Noise Impacts With Mitigation Measures

Off-Site Receptor Location	Noise Reduction Provided by Mitigation Measures (at the receptor ground level), dBA	Estimated Construction Noise Levels by Construction Phases (L_{eq} (dBA))				Existing Daytime Ambient Noise Levels (L_{eq} (dBA))	Significance Criteria (L_{eq} (dBA))[a]	Maximum Noise Exceedance above the Significance Criteria (L_{eq} (dBA))	Significant Impact With Mitigation?
		Demo	Grading	Structure	Finishes				
Block 0									
R1	-5	58.7	63.3	59.0	60.0	62.1	67.1	0.0	No
R2	-5	56.9	61.5	57.2	58.1	61.6	66.6	0.0	No
R3	-5	60.8	65.3	61.0	62.1	64.6	69.6	0.0	No
R4	0	46.3	51.1	46.8	47.5	60.4	65.4	0.0	No
R5	-5	67.1	71.1	66.8	68.6	68.3	73.3	0.0	**Yes**[c]
R6	-7	50.1	54.5	50.2	51.4	54.6	59.6	0.0	No
R7	-13	69.6	72.0	67.2	71.6	67.2	72.2	0.0	**Yes**[c]
R8	-8	59.7	64.0	59.7	61.0	62.9	67.9	0.0	No
R9	-9	57.4	61.8	57.6	58.7	58.3	63.3	0.0	No
R10	-9	56.6	61.0	56.7	57.9	57.0	62.0	0.0	No
R11	-9	57.7	62.1	57.8	59.0	58.2	63.2	0.0	**Yes**[c]
R12	0	53.2	57.7	53.4	54.4	68.1	73.1	0.0	No
R13	0	58.1	62.9	58.6	59.3	67.0	72.0	0.0	No
R14	0	58.4	62.9	58.6	59.6	61.4	66.4	0.0	No
Block 1									
R1	-8	63.2	66.5	65.3	65.4	62.1	67.1	0.0	**Yes**[c]
R2	-5	59.3	63.0	61.7	61.9	61.6	66.6	0.0	No
R3	0	65.1	68.8	67.5	67.7	64.6	69.6	0.0	No
R4	0	58.2	62.0	60.6	61.0	60.4	65.4	0.0	No
R5	-9	70.7	72.9	72.2	72.1	68.3	73.3	0.0	**Yes**[c]
R6	0	53.1	56.9	55.5	55.8	54.6	59.6	0.0	No
R7	0	64.2	67.9	66.6	66.9	67.2	72.2	0.0	No
R8	0	55.3	59.1	57.7	58.1	62.9	67.9	0.0	No
R9	-5	57.4	61.2	59.8	60.1	58.3	63.3	0.0	No
R10	-5	56.5	60.3	59.0	59.2	57.0	62.0	0.0	No

Table IV.H-29 (Continued)
Construction Noise Impacts With Mitigation Measures

Off-Site Receptor Location	Noise Reduction Provided by Mitigation Measures (at the receptor ground level), dBA	Estimated Construction Noise Levels by Construction Phases (L_{eq} (dBA))				Existing Daytime Ambient Noise Levels (L_{eq} (dBA))	Significance Criteria (L_{eq} (dBA))[a]	Maximum Noise Exceedance above the Significance Criteria (L_{eq} (dBA))	Significant Impact With Mitigation?
		Demo	Grading	Structure	Finishes				
R11	0	56.8	60.5	59.2	59.5	58.2	63.2	0.0	No
R12	0	60.7	64.5	63.1	63.4	68.1	73.1	0.0	No
R13	0	49.1	52.9	51.5	51.9	67.0	72.0	0.0	No
R14	0	53.6	57.5	56.1	56.4	61.4	66.4	0.0	No
Block 2									
R1	-15	66.5	68.1	67.5	67.5	62.1	67.1	1.0	**Yes**
R2	-7	62.6	65.8	64.7	64.8	61.6	66.6	0.0	**Yes**[c]
R3	-5	61.8	65.1	63.9	64.1	64.6	69.6	0.0	No
R4	0	60.4	64.0	62.7	63.0	60.4	65.4	0.0	No
R5	0	67.6	71.0	69.7	70.0	68.3	73.3	0.0	No
R6	0	49.8	53.4	52.0	52.4	54.6	59.6	0.0	No
R7	0	61.5	65.0	63.7	64.1	67.2	72.2	0.0	No
R8	0	58.5	62.1	60.7	61.2	62.9	67.9	0.0	No
R9	0	57.1	60.6	59.3	59.6	58.3	63.3	0.0	No
R10	-5	55.9	59.5	58.1	58.5	57.0	62.0	0.0	No
R11	0	55.3	58.8	57.5	57.9	58.2	63.2	0.0	No
R12	0	50.5	54.1	52.7	53.1	68.1	73.1	0.0	No
R13	0	51.4	55.0	53.7	54.0	67.0	72.0	0.0	No
R14	0	52.0	55.6	54.3	54.7	61.4	66.4	0.0	No
Block 3									
R1	-15	62.9	65.4	64.6	64.5	62.1	67.1	0.0	**Yes**[c]
R2	-15	65.1	67.2	66.5	66.5	61.6	66.6	0.6	**Yes**
R3	-5	61.8	65.5	64.2	64.3	64.6	69.6	0.0	No
R4	0	57.9	61.8	60.4	60.7	60.4	65.4	0.0	No
R5	0	62.9	66.8	65.4	65.6	68.3	73.3	0.0	No
R6	0	47.5	51.6	50.1	50.4	54.6	59.6	0.0	No

Table IV.H-29 (Continued)
Construction Noise Impacts With Mitigation Measures

Off-Site Receptor Location	Noise Reduction Provided by Mitigation Measures (at the receptor ground level), dBA	Estimated Construction Noise Levels by Construction Phases (L_{eq} (dBA))				Existing Daytime Ambient Noise Levels (L_{eq} (dBA))	Significance Criteria (L_{eq} (dBA))[a]	Maximum Noise Exceedance above the Significance Criteria (L_{eq} (dBA))	Significant Impact With Mitigation?
		Demo	Grading	Structure	Finishes				
R7	0	48.4	52.6	51.0	51.4	67.2	72.2	0.0	No
R8	0	56.6	60.7	59.2	59.5	62.9	67.9	0.0	No
R9	0	51.0	55.0	53.5	53.8	58.3	63.3	0.0	No
R10	0	54.6	58.6	57.2	57.5	57.0	62.0	0.0	No
R11	0	53.6	57.6	56.1	56.5	58.2	63.2	0.0	No
R12	0	50.3	54.3	52.9	53.2	68.1	73.1	0.0	No
R13	0	54.0	57.8	56.4	56.7	67.0	72.0	0.0	No
R14	0	50.3	54.4	52.9	53.3	61.4	66.4	0.0	No
Block 4									
R1	-6	62.8	66.2	65.1	64.0	62.1	67.1	0.0	**Yes**[c]
R2	-15	67.6	69.2	68.6	65.8	61.6	66.6	2.6	**Yes**
R3	-13	66.3	68.6	67.8	65.5	64.6	69.6	0.0	**Yes**[c]
R4	0	47.1	50.8	49.5	48.7	60.4	65.4	0.0	No
R5	0	63.0	66.7	65.4	64.6	68.3	73.3	0.0	No
R6	0	47.6	51.4	50.0	49.4	54.6	59.6	0.0	No
R7	0	59.4	63.1	61.8	61.1	67.2	72.2	0.0	No
R8	0	57.1	60.9	59.6	59.0	62.9	67.9	0.0	No
R9	0	54.3	57.9	56.7	55.8	58.3	63.3	0.0	No
R10	0	52.2	55.9	54.6	53.8	57.0	62.0	0.0	No
R11	0	50.3	54.0	52.7	52.0	58.2	63.2	0.0	No
R12	0	53.9	57.6	56.3	55.5	68.1	73.1	0.0	No
R13	0	60.1	63.7	62.5	61.5	67.0	72.0	0.0	No
R14	0	55.6	59.5	58.1	57.5	61.4	66.4	0.0	No
Block 5/6									
R1	-8	61.5	65.8	66.0	65.2	62.1	67.1	0.0	**Yes**[c]
R2	-9	61.1	65.4	65.6	64.8	61.6	66.6	0.0	**Yes**[c]

Table IV.H-29 (Continued)
Construction Noise Impacts With Mitigation Measures

Off-Site Receptor Location	Noise Reduction Provided by Mitigation Measures (at the receptor ground level), dBA	Estimated Construction Noise Levels by Construction Phases (L_{eq} (dBA))				Existing Daytime Ambient Noise Levels (L_{eq} (dBA))	Significance Criteria (L_{eq} (dBA))[a]	Maximum Noise Exceedance above the Significance Criteria (L_{eq} (dBA))	Significant Impact With Mitigation?
		Demo	Grading	Structure	Finishes				
R3	-12	65.3	68.9	69.3	68.1	64.6	69.6	0.0	**Yes**[c]
R4	0	45.0	49.7	49.7	49.2	60.4	65.4	0.0	No
R5	0	67.8	72.2	72.4	71.7	68.3	73.3	0.0	No
R6	0	49.9	54.5	54.5	54.0	54.6	59.6	0.0	No
R7	0	63.1	67.7	67.7	67.2	67.2	72.2	0.0	No
R8	0	59.8	64.4	64.5	64.0	62.9	67.9	0.0	No
R9	-5	56.6	61.0	61.2	60.5	58.3	63.3	0.0	No
R10	-5	54.8	59.3	59.4	58.8	57.0	62.0	0.0	No
R11	-5	53.2	57.8	57.9	57.3	58.2	63.2	0.0	No
R12	0	54.2	58.7	58.8	58.2	68.1	73.1	0.0	No
R13	0	57.0	61.6	61.6	61.1	67.0	72.0	0.0	No
R14	0	52.9	57.5	57.5	57.1	61.4	66.4	0.0	No
Block 7									
R1	0	62.0	65.6	64.2	64.6	62.1	67.1	0.0	No
R2	0	59.2	62.8	61.4	61.8	61.6	66.6	0.0	No
R3	0	60.7	64.4	63.0	63.4	64.6	69.6	0.0	No
R4	0	45.2	48.9	47.5	47.9	60.4	65.4	0.0	No
R5	-10	64.8	67.6	66.6	66.5	68.3	73.3	0.0	**Yes**[c]
R6	-9	50.7	54.0	52.8	52.9	54.6	59.6	0.0	No
R7	-5	68.8	71.7	70.6	70.6	67.2	72.2	0.0	No
R8	0	55.4	58.9	57.5	57.8	62.9	67.9	0.0	No
R9	-5	56.8	60.4	59.0	59.4	58.3	63.3	0.0	No
R10	0	56.9	60.5	59.1	59.5	57.0	62.0	0.0	No
R11	0	58.1	61.7	60.3	60.7	58.2	63.2	0.0	No
R12	0	49.4	53.1	51.7	52.1	68.1	73.1	0.0	No
R13	0	46.0	49.8	48.3	48.8	67.0	72.0	0.0	No

Table IV.H-29 (Continued)
Construction Noise Impacts With Mitigation Measures

Off-Site Receptor Location	Noise Reduction Provided by Mitigation Measures (at the receptor ground level), dBA	Estimated Construction Noise Levels by Construction Phases (L_{eq} (dBA))				Existing Daytime Ambient Noise Levels (L_{eq} (dBA))	Significance Criteria (L_{eq} (dBA))[a]	Maximum Noise Exceedance above the Significance Criteria (L_{eq} (dBA))	Significant Impact With Mitigation?
		Demo	Grading	Structure	Finishes				
R14	0	58.1	61.7	60.3	60.6	61.4	66.4	0.0	No
Block 8									
R1	-5	57.7	61.5	62.3	59.8	62.1	67.1	0.0	No
R2	-5	57.8	61.7	62.5	59.9	61.6	66.6	0.0	No
R3	0	58.7	62.4	63.3	60.6	64.6	69.6	0.0	No
R4	0	42.6	46.5	47.2	44.7	60.4	65.4	0.0	No
R5	0	66.1	69.9	70.7	68.1	68.3	73.3	0.0	No
R6	0	51.3	55.2	56.0	53.5	54.6	59.6	0.0	No
R7	0	61.2	65.0	65.8	63.2	67.2	72.2	0.0	No
R8	0	57.6	61.4	62.2	59.7	62.9	67.9	0.0	No
R9	-15	68.5	70.7	72.2	69.3	58.3	63.3	8.9	**Yes**
R10	-15	62.4	65.6	66.8	63.8	57.0	62.0	4.8	**Yes**
R11	-13	58.3	61.9	62.9	60.1	58.2	63.2	0.0	**Yes**[c]
R12	0	61.0	64.7	65.6	62.8	68.1	73.1	0.0	No
R13	0	49.5	53.4	54.1	51.7	67.0	72.0	0.0	No
R14	0	54.9	58.8	59.5	57.1	61.4	66.4	0.0	No
West Lot									
R1	0	61.5	62.1	61.0	61.3	62.1	67.1	0.0	No
R2	0	59.6	60.3	59.3	59.5	61.6	66.6	0.0	No
R3	0	61.3	61.9	60.9	61.1	64.6	69.6	0.0	No
R4	0	41.1	41.9	40.8	41.0	60.4	65.4	0.0	No
R5	0	68.5	68.8	67.9	68.1	68.3	73.3	0.0	No
R6	-13	54.0	54.0	53.2	53.5	54.6	59.6	0.0	No
R7	-15	73.9	70.4	70.5	71.9	67.2	72.2	1.7	**Yes**
R8	-11	63.9	63.7	63.0	63.3	62.9	67.9	0.0	No
R9	0	58.4	58.9	57.9	58.1	58.3	63.3	0.0	No

Table IV.H-29 (Continued)
Construction Noise Impacts With Mitigation Measures

Off-Site Receptor Location	Noise Reduction Provided by Mitigation Measures (at the receptor ground level), dBA	Estimated Construction Noise Levels by Construction Phases (L_{eq} (dBA))				Existing Daytime Ambient Noise Levels (L_{eq} (dBA))	Significance Criteria (L_{eq} (dBA))[a]	Maximum Noise Exceedance above the Significance Criteria (L_{eq} (dBA))	Significant Impact With Mitigation?
		Demo	Grading	Structure	Finishes				
R10	0	54.2	54.8	53.8	54.0	57.0	62.0	0.0	No
R11	0	56.7	57.1	56.1	56.4	58.2	63.2	0.0	No
R12	0	51.0	51.7	50.6	50.8	68.1	73.1	0.0	No
R13	0	47.0	47.7	46.7	46.9	67.0	72.0	0.0	No
R14	-15	72.1	69.2	69.2	70.3	61.4	66.4	5.7	**Yes**
East Lot[b]									
R1	0	0.0	54.9	52.4	0.0	62.1	67.1	0.0	No
R2	0	0.0	64.1	62.1	0.0	61.6	66.6	0.0	No
R3	-5	0.0	66.1	63.8	0.0	64.6	69.6	0.0	No
R4	0	0.0	61.3	58.8	0.0	60.4	65.4	0.0	No
R5	0	0.0	61.3	58.6	0.0	68.3	73.3	0.0	No
R6	0	0.0	47.2	44.5	0.0	54.6	59.6	0.0	No
R7	0	0.0	58.8	56.1	0.0	67.2	72.2	0.0	No
R8	0	0.0	57.1	54.3	0.0	62.9	67.9	0.0	No
R9	0	0.0	53.1	50.4	0.0	58.3	63.3	0.0	No
R10	0	0.0	51.3	48.7	0.0	57.0	62.0	0.0	No
R11	0	0.0	49.8	47.1	0.0	58.2	63.2	0.0	No
R12	0	0.0	53.6	51.0	0.0	68.1	73.1	0.0	No
R13	-15	0.0	78.0	77.6	0.0	67.0	72.0	6.0	**Yes**
R14	0	0.0	50.7	48.0	0.0	61.4	66.4	0.0	No

[a] *Significance criteria are equivalent to the measured daytime ambient noise levels (see Table IV.H-7 on page IV.H-25) plus 5 dBA, per the L.A. CEQA Thresholds Guide for construction activities lasting longer than 10 days in a three-month period. If the estimated construction noise levels exceed those significance criteria, a construction-related noise impact is identified.*

[b] *No demo and finishes phases for the East Lot.*

[c] *Noise barriers would not be effective in reducing the on-site construction noise at the upper levels at these receptors. Therefore, on-site construction noise*

Table IV.H-29 (Continued)
Construction Noise Impacts With Mitigation Measures

Off-Site Receptor Location	Noise Reduction Provided by Mitigation Measures (at the receptor ground level), dBA	Estimated Construction Noise Levels by Construction Phases (L_{eq} (dBA))				Existing Daytime Ambient Noise Levels (L_{eq} (dBA))	Significance Criteria (L_{eq} (dBA))[a]	Maximum Noise Exceedance above the Significance Criteria (L_{eq} (dBA))	Significant Impact With Mitigation?
		Demo	Grading	Structure	Finishes				
impacts would remain significant and unavoidable. On-site construction noise levels shown are for the ground level of the building only.									
Source: AES, 2022. See Appendix L of this Draft EIR.									

50 percent would increase the number of days that sensitive receptors would be impacted by construction activities and, therefore, would prolong the duration of the impact without reducing it to less-than-significant levels. The noise impacts would still exceed the significance criteria with a 50-percent reduction in construction equipment, because the exceedances are greater than 3 dBA at receptor locations R9, R10, R13, and R14. Construction noise levels can also be reduced by providing an additional buffer zone between the receptor and the construction equipment. Noise levels from construction equipment would attenuate approximately 6 dBA per doubling of distance. However, it would not be technologically feasible to provide a greater buffer zone, as the construction activities (e.g., site demolition) would be up to the property line.

Therefore, there are no other technologically feasible mitigation measures that could be implemented to reduce the temporary noise impacts from on-site construction. Table IV.H-30 on page IV.H-95 provides the estimated construction noise levels due to overlapping construction activities. As indicated therein, construction noise impacts at receptor locations R1, R2, R3, R5, R7, R9, R10, R11, R13, and R14 would still exceed the significance thresholds with mitigation measures. **Therefore, construction noise impacts associated with on-site noise sources would remain significant and unavoidable.**

(b) Off-Site Construction Noise

As discussed above and shown in Table IV.H-15 and Table IV.H-16 on pages IV.H-38 and IV.H-53, respectively, the short-term noise impacts associated with off-site construction traffic would be significant along Burbank Boulevard, Lankershim Boulevard, Cumpston Street, Chandler Boulevard, and Fair Avenue, under Haul Route Option A and along Vineland Avenue, Lankershim Boulevard, Chandler Boulevard, Fair Avenue, Cumpston Street, and Magnolia Boulevards under Haul Route Option B. As discussed above, there are no technologically feasible mitigation measures that could be implemented to reduce this short-term impact. **Therefore, construction noise impacts associated with off-site noise sources would remain significant and unavoidable.**

(c) Operational Noise

Noise impacts associated with on-site and off-site noise sources during Project operations (project build-out) would be less than significant without mitigation. **Therefore, no mitigation measures were required, and the impacts would be less than significant.**

Table IV.H-30
Construction Noise Impacts—Overlapping Construction With Mitigation Measures

Off-Site Receptor Location	Estimated Construction Noise Levels by Construction Phases (L_{eq} (dBA))						Existing Daytime Ambient Noise Levels (L_{eq} (dBA))	Significance Criteria (L_{eq} (dBA))[a]	Maximum Noise Exceedance above the Significance Criteria (L_{eq} (dBA))	Significant Impact With Mitigation?
	East Lot Grading; West Lot Demo (2022)	Block 0 Grading; West Lot Structure (2022)	Block 0 Grading; Block 7 Grading; West Lot Structure; Block 8 Demo (2022)	Block 0 Structure; Block 7 Grading; Block 8 Grading (2023)	Block 7 Finishes; Block 8 Structure; Block 5/6 Grading (2023)	Block 8 Finishes; Block 5/6 Structure (2024)				
R1	62.4	65.3	68.8	67.7	69.2	66.9	62.1	67.1	2.1	**Yes**
R2	65.4	63.5	66.8	65.9	68.3	66.6	61.6	66.6	1.7	**Yes**
R3	67.3	66.6	69.1	67.6	70.8	69.8	64.6	69.6	1.2	**Yes**
R4	61.3	51.5	53.7	52.3	53.2	50.9	60.4	65.4	0.0	No
R5	69.3	72.8	74.6	73.1	75.2	73.8	68.3	73.3	1.9	**Yes**
R6	54.8	56.9	59.4	58.4	59.4	57.0	54.6	59.6	0.0	No
R7	74.0	74.3	76.4	73.7	73.3	69.0	67.2	72.2	4.2	**Yes**
R8	64.7	66.5	67.7	64.9	67.0	65.7	62.9	67.9	0.0	No
R9	59.5	63.3	70.1	71.3	72.7	69.9	58.3	63.3	9.4	**Yes**
R10	56.0	61.8	66.4	67.2	68.1	65.1	57.0	62.0	6.1	**Yes**
R11	57.5	63.1	66.2	65.6	65.7	62.1	58.2	63.2	3.0	**Yes**
R12	55.5	58.5	63.4	65.3	66.6	64.3	68.1	73.1	0.0	No
R13	78.0	63.0	63.4	60.2	62.5	62.0	67.0	72.0	6.0	**Yes**
R14	72.1	70.1	70.8	64.7	64.2	60.3	61.4	66.4	5.7	**Yes**

[a] *Significance criteria are equivalent to the measured daytime ambient noise levels (see Table IV.H-7 on page IV.H-25) plus 5 dBA, per the L.A. CEQA Thresholds Guide for construction activities lasting longer than 10 days in a three-month period. If the estimated construction noise levels exceed those significance criteria, a construction-related noise impact is identified.*

Source: AES, 2022. See Appendix L of this Draft EIR.

Threshold (b): Would the Project result in the generation of excessive groundborne vibration or groundborne noise levels?

(1) Impact Analysis

(a) Construction

Construction activities can generate varying degrees of ground vibration, depending on the construction procedures and the type of construction equipment used. The operation of construction equipment generates vibrations that spread through the ground and diminish in amplitude with distance from the source. The effect on buildings located in the vicinity of the construction site often varies, depending on soil type, ground strata, and construction characteristics of the receptor buildings. The results from vibration can range from no perceptible effects at the lowest vibration levels to low rumbling sounds and perceptible vibration at moderate levels. However, ground-borne vibrations from construction activities rarely reach levels that damage structures.

(i) Building Damage Impacts from On-Site Construction

With regard to potential building damage, the Project would generate ground-borne construction vibration during building demolition and site excavation/grading activities when heavy construction equipment, such as large bulldozers, drill rigs, and loaded trucks, would be used. The FTA has published standard vibration velocities for various construction equipment operations. Table IV.H-31 on page IV.H-97 provides the estimated ground vibration velocity levels (in terms of inch per second PPV) at the nearest off-site structures to the Project Site. It is noted that since impact pile driving methods would not be used during construction of the Project, in accordance with Project Design Feature NOI-PDF-2 provided above, impact pile driving vibration is not included in the on-site construction vibration analysis. Installation of piles for shoring and foundation would generally utilize drilling methods to minimize vibration generation.

As discussed in Section IV.B, Cultural Resources, of the Draft EIR, there is one historic structure (Lankershim Depot) located on the Project Site and six historic structures located in the Project vicinity (i.e., Security Trust and Savings Bank, Angelino Valley Mortuary, United States Post Office, Fire Station #60, Air Raid Siren #210, and El Portal Theater). Therefore, the assessment of construction vibration provided below for potential building damage due to on-site construction compares the estimated vibration levels generated during construction of the Project to the 0.12-PPV significance criterion for buildings extremely susceptible to vibration damage (applicable to the identified historic structures), the 0.3 PPV significance criterion for engineered concrete and masonry buildings (applicable to the commercial buildings along the west side of Tujunga Avenue and Chandler Boulevard, west of Tujunga Avenue and the two-story residential building on the north side of Cumpston Street), and the 0.5 PPV significance criterion for

Table IV.H-31
Construction Vibration Impacts—Building Damage

Nearest On- and Off-Site Building Structure[a]	Estimated Vibration Velocity Levels at the Outside of and Adjacent to the Nearest Off-Site Structures from the Project Construction Equipment (inch/second (PPV))[b]					Significant Criteria (PPV)	Significant Impact?
	Large Bulldozer	Caisson Drilling	Loaded Trucks	Jack-hammer	Small Bulldozer		
FTA Reference Vibration Levels at 25 feet	0.089	0.089	0.076	0.035	0.003	—	—
Lankershim Depot (Historic)	0.244	0.244	0.208	0.096	0.008	0.12[c]	**Yes**
Security Trust and Savings Bank located at 5301 Lankershim Boulevard (Historic)	0.523	0.523	0.446	0.206	0.018	0.12[c]	**Yes**
Angelino Valley Mortuary located at 5423 Tujunga Avenue (Historic)	0.017	0.017	0.015	0.007	0.001	0.12[c]	No
United States Post Office located at 11314 Chandler Boulevard (Historic)	0.016	0.016	0.013	0.006	0.001	0.12[c]	No
Fire Station #60 and Air Raid Siren #210 located at 11338 Chandler Boulevard (Historic)	0.013	0.013	0.011	0.005	<0.001	0.12[c]	No
El Portal Theater located at 11200-11220 Weddington Street (Historic)	0.027	0.027	0.023	0.011	0.001	0.12[c]	No
Commercial and residential buildings on the north side of Cumpston Street (east of Lankershim Boulevard)	0.017	0.017	0.015	0.007	0.001	0.3[d]	No
4-Story residential building on the east side of Fair Avenue	0.244	0.244	0.208	0.096	0.008	0.5[e]	No
Commercial & residential buildings on the south side Chandler Boulevard (east of Lankershim Boulevard)	0.011	0.011	0.010	0.004	<0.001	0.5[e]	No
Residential tower building at the southwest corner of Lankershim Boulevard and Cumpston Street	0.156	0.156	0.133	0.061	0.005	0.5[e]	No
Commercial buildings on the westside of Tujunga Avenue	0.032	0.032	0.027	0.012	0.001	0.3[d]	No

Table IV.H-31 (Continued)
Construction Vibration Impacts—Building Damage

Nearest On- and Off-Site Building Structure[a]	Estimated Vibration Velocity Levels at the Outside of and Adjacent to the Nearest Off-Site Structures from the Project Construction Equipment (inch/second (PPV))[b]					Significant Criteria (PPV)	Significant Impact?
	Large Bulldozer	Caisson Drilling	Loaded Trucks	Jack-hammer	Small Bulldozer		
Commercial buildings on the north and south side of Chandler Boulevard (west of Tujunga Avenue)	0.044	0.044	0.038	0.017	0.002	0.3[d]	No

[a] *Represents off-site building structures located nearest to the Project Site to the north, south, east, and west.*

[b] *Vibration level calculated based on FTA reference vibration level at 25-foot distance.*

[c] *FTA criteria for buildings extremely susceptible to vibration damage, such as historic buildings.*

[d] *FTA criteria for engineered concrete and masonry buildings.*

[e] *FTA criteria for reinforced-concrete, steel or timber buildings.*

Source: FTA, 2018; AES, 2020. See Appendix L of this Draft EIR.

reinforced-concrete, steel, and timber buildings (applicable to the newer 4-story residential buildings along Fair Avenue, Cumpston Street, and Chandler Boulevard, and the residential tower at the southwest corner of Lankershim Boulevard and Cumpston Street). The Lankershim Depot would be relocated on the site approximately 44 feet to the west and 2.5 feet to the south of its current location, during the initial Block 0 construction (e.g., demolition and grading phase). As discussed in Section IV.B, it is technologically feasible to relocate and rehabilitate the Lankershim Depot in conformance with the Secretary of the Interior's Standards, and mitigation measures provided in Section IV.B would be implemented to reduce impact associated with the relocation of the Lankershim Depot. Once the Lankershim Depot is relocated, it would be exposed to vibration associated with construction activities within Block 0 West. As indicated in Table IV.H-31 on page IV.H-97, the estimated vibration levels from the construction equipment would be below the 0.3-PPV building damage significance criterion for the existing commercial and residential buildings on the north side of Cumpston Street and the commercial buildings along Tujunga Avenue and Chandler Boulevard (west of Tujunga Avenue) and the 0.5-PPV building damage significance criterion for the 4-story residential buildings along Fair Avenue, Cumpston Street, Chandler Boulevard, and Lankershim Boulevard. The estimated vibration levels would exceed the 0.12-PPV significance criterion for the Lankershim Depot (within Block 0 West) and the Security Trust and Savings Bank building located at 5301 Lankershim Boulevard (adjacent to the Project Block 8). **Therefore, the on-site vibration impacts during construction of the Project, pursuant to the significance criteria for building**

damage at the Lankershim Depot and Security Trust and Savings Bank, would be significant without mitigation measures.

(ii) Human Annoyance Impacts from On-Site Construction

Table IV.H-32 on page IV.H-100 provides the estimated vibration levels at the off-site sensitive uses due to construction equipment operation and compares the estimated vibration levels to the specified significance criteria for human annoyance. Per FTA guidance, the significance criteria for human annoyance are 72 VdB for residential, hotel and theater uses, 75 VdB for institutional uses (e.g., school), and 65 VdB for studio (recording), assuming there are a minimum of 70 vibration events occurring during a typical construction day. Vibration levels at receptor location R8 is provided for information only, as there are no applicable vibration criteria for the outdoor park use. As indicated in

As shown in Table IV.H-32, the estimated ground-borne vibration levels from construction equipment would be below the significance criteria for human annoyance at off-site sensitive receptor locations R3, R4, R6, R8, R10, R11, and R12. The estimated ground-borne vibration levels at receptor locations R1, R2, R5, R7, R13, and R14 would exceed the 72-VdB significance criterion. In addition, the estimated ground-borne vibration levels at receptors location R9 would exceed the 65-VdB significance criterion. **Therefore, on-site vibration impacts during construction of the Project, pursuant to the significance criteria for human annoyance, would be significant without mitigation measures.**

(iii) Building Damage and Human Annoyance Impacts from Off-Site Construction

As described above, construction delivery/haul trucks would travel between the Project Site and the Hollywood Freeway (SR-170) and the Ventura Freeway (SR-134) via Burbank Boulevard (Option A), Lankershim Boulevard (Options A & B), Cumpston Street (Options A & B), Chandler Boulevard (Options A & B), Fair Avenue (Options A and B), Vineland Avenue (Option B), Tujunga Avenue (Option B), Colfax Avenue (Option A), Magnolia Boulevard (Option B), and Riverside Drive (Option B). Heavy-duty construction trucks would generate ground-borne vibration as they travel along the Project's anticipated truck route(s). Thus, an analysis of potential vibration impacts using the building damage and human annoyance criteria for ground-borne vibration along the anticipated local truck routes was conducted.

Regarding building damage, based on FTA data, the vibration generated by a typical heavy-duty truck would be approximately 63 VdB (0.00566 PPV) at a distance of 50 feet

Table IV.H-32
Construction Vibration Impacts—Human Annoyance

Off-Site Receptor Location	Estimated Vibration Velocity Levels at the Off-Site Sensitive Uses Due to On-Site Construction Equipment Operation[a] (VdB)					Significance Criteria (VdB)	Significant Impact?
	Large Bulldozer	Caisson Drilling	Loaded Trucks	Jack-hammer	Small Bulldozer		
FTA Reference Vibration Levels at 25 feet	87	87	86	79	58	—	—
R1	73	73	72	65	44	72	**Yes**
R2	75	75	74	67	46	72	**Yes**
R3	69	69	68	61	40	72	No
R4	46	46	45	38	17	75	No
R5	87	87	86	79	58	72	**Yes**
R6	53	53	52	45	24	72	No
R7	81	81	80	73	52	72	**Yes**
R8	58	58	57	50	29	n/a[b]	No
R9	76	76	75	68	47	65	**Yes**
R10	65	65	64	57	36	75	No
R11	55	55	54	47	26	72	No
R12	54	54	53	46	25	65	No
R13	96	96	95	88	67	72	**Yes**
R14	78	78	77	70	49	72	**Yes**

[a] *Vibration levels calculated based on FTA reference vibration level at 25 distance,*

[b] *Not applicable, as there are no applicable vibration criteria for outdoor spaces.*

Source: FTA, 2018; AES, 2022. See Appendix L of this Draft EIR.

from the truck.[63] According to the FTA "[i]t is unusual for vibration from sources such as buses and trucks to be perceptible, even in locations close to major roads." Nonetheless, there are existing buildings along the Project's anticipated truck route, including Burbank Boulevard, Lankershim Boulevard, Cumpston Street, Chandler Boulevard, Fair Avenue, Vineland Avenue, Tujunga Avenue, Colfax Avenue, Magnolia Boulevard, and Riverside Drive, that are situated approximately 20 feet from the right-of-way and would be exposed to ground-borne vibration levels of approximately 0.022 PPV, as provided in the Noise and Vibration Calculation Worksheets included in Appendix L of this Draft EIR. This estimated vibration generated by construction trucks traveling along the anticipated truck route(s) would be below the most stringent building damage criterion of 0.12 PPV for buildings

[63] *FTA, "Transit Noise and Vibration Impact Assessment," Figure 5-4, September 2018.*

extremely susceptible to vibration. **Therefore, vibration impacts (pursuant to the significance criteria for building damage) from off-site construction activities (i.e., construction trucks traveling on public roadways) would be less than significant**.

As discussed above, per FTA guidance, the significance criteria for human annoyance are 72 VdB for sensitive uses, including residential, hotel and theater uses, 75 VdB for school use, and 65 VdB for studio (recording). As described above, the vibration generated by a typical heavy-duty truck would be approximately 63 VdB at a distance of 50 feet from the truck. Vibration sensitive uses (e.g., residential and hotel) along Chandler Boulevard, Vineland Avenue, and Riverside Drive are located a minimum of 30 feet from the anticipated truck route(s). The temporary vibration levels from trucks passing by would be approximately 70 VdB, as provided in the Noise and Vibration Calculation Worksheets included in Appendix L of this Draft EIR, which would be below the 72-VdB significance criterion. However, the residential uses along Burbank Boulevard, Lankershim Boulevard, Cumpston Street, Fair Avenue, Tujunga Avenue, Colfax Avenue, and Magnolia Boulevard are located approximately 24 feet from the anticipated truck route(s) and would be exposed to ground-borne vibration of approximately 72.6 VdB, which would exceed the 72-VdB significance criterion. In addition, there are studios (recording) located along Lankershim Boulevard, which would also be exposed to vibration level up to 74 VdB, exceeding the 65-VdB significance criterion. **As such, potential vibration impacts with respect to human annoyance that would result from temporary and intermittent off-site vibration from construction trucks traveling along the anticipated truck route(s) would be significant without mitigation measures.**

(iv) Summary of Construction Vibration Impacts

As discussed above, the estimated vibration levels from on-site construction equipment would exceed the building damage significance criteria for the off-site historic structure, Security Trust and Savings Bank building (adjacent to the Block 8) and the on-site Lankershim Depot. In addition, the estimated vibration levels from on-site construction equipment would exceed the human annoyance significance criterion of 72 VdB at the off-site residential uses located within 80 feet of the Project Site (receptor locations R1, R2, R5, R7, R13, and R14), and the 65-VdB human annoyance significance criterion at the off-site recording studio (receptor location R9). Therefore, vibration impacts from on-site construction activities would be significant pursuant to the significance criteria for human annoyance without mitigation measures.

Vibration impacts associated with temporary and intermittent vibration from off-site construction activities (i.e., construction trucks traveling along the anticipated truck routes) would be less than significant with respect to building damage; however, vibration impacts from off-site construction activities would be significant with respect to the significance criteria for human annoyance along the roadway segments of Burbank Boulevard,

Lankershim Boulevard, Cumpston Street, Fair Avenue, Tujunga Avenue, Colfax Avenue, and Magnolia Boulevard.

(b) Operation Vibration Impacts

As described above, sources of vibration related to operation of the Project would include vehicle circulation, delivery trucks, and building mechanical equipment. As also discussed above, vehicular-induced vibration, including vehicle circulation within the subterranean parking area, would not generate perceptible vibration levels at off-site sensitive uses. Building mechanical equipment installed as part of the Project would include typical commercial-grade stationary mechanical equipment, such as air-condenser units (mounted at the roof level), that would include vibration-attenuation mounts to reduce vibration transmission so vibration would not be perceptible at the off-site sensitive receptors. **Therefore, operation of the Project would not result in the generation of excessive ground-borne vibration levels that would be perceptible in the vicinity of the Project Site. As such, vibration impacts associated with operation of the Project would be less than significant.**

Although not required by CEQA, for informational purposes, an analysis was conducted to determine the vibration effects from the Metro B (Red) Line that runs under Lankershim Boulevard and terminates at the Metro North Hollywood Station within the Project Site, near the future residential development.[64] Based on the site ground vibration measurements as provided above, the Project Site is currently exposed to ground vibration levels of up to 57 VdB (at Block 1) and 62.5 VdB (at Block 5/6) from Metro B (Red) Line operation. The Metro B (Red) Line generated vibration level is below the FTA vibration criterion of 72 VdB (based on Frequent Events) for residential uses.

(2) Mitigation Measures

(a) *Construction Vibration*

As analyzed above, vibration impacts from on-site and off-site construction activities would be significant pursuant to the significance criteria for both building damage and human annoyance. Therefore, the following mitigation measure is provided to reduce construction-related vibration impacts:

Mitigation Measure NOI-MM-2: Prior to any construction activities involving vibration on Block 0 West or Block 8, the Applicant shall retain the

[64] *CEQA generally does not require the analysis of existing environment's impact on the proposed project, per "California Building Industry Association v. Bay Area Air Quality Management District", December 2015.*

services of a qualified structural engineer or qualified professional building engineer to visit the Lankershim Depot (after it is relocated to the future location) and the Security Trust and Savings Bank building adjacent to the Project Site (Block 8) to inspect and document the apparent physical condition of the building's readily-visible features (i.e., any cracks or damage). In addition, the structural engineer shall survey the existing foundations and other structural aspects of the Security Trust and Savings Bank and provide a shoring design to protect the building from potential damage. Pot holing, ground penetrating radar, or other similar methods of determining the below grade conditions on the Project Site and the Security Trust and Savings Bank may be necessary to establish baseline conditions and prepare the shoring design. The shoring design shall specify threshold limits for vibration causing activities.

The qualified structural engineer shall hold a valid license to practice structural engineering in the State of California and have extensive demonstrated experience specific to rehabilitating historic buildings and applying the Secretary of the Interior's Standards to such projects. The City of Los Angeles shall determine qualification prior to any work being performed. The qualified structural engineer shall submit to the lead agency a pre-construction survey that establishes baseline conditions to be monitored during construction, prior to issuance of any permit for the Project on Block 0 West or Block 8.

Prior to construction activities, the Applicant shall retain the services of a qualified acoustical engineer to review proposed construction equipment and develop and implement a vibration monitoring program capable of documenting the construction-related ground vibration levels at the Lankershim Depot and the Security Trust and Savings Bank building during demolition and grading/excavation phases.

The vibration monitoring system shall continuously measure and store the peak particle velocity (PPV) in inch/second. The system shall also be programmed for two preset velocity levels: a warning level of 0.10 PPV and a regulatory level of 0.12 PPV. The system shall also provide real-time alert when the vibration levels exceed the warning level.

In the event the warning level (0.10 PPV) is triggered, the contractor shall identify the source of vibration generation, halt construction in the immediate vicinity, and provide technologically feasible steps to reduce the vibration level, including but not limited to staggering concurrent activities, utilizing lower vibratory techniques, and limiting high vibration generating equipment (i.e., large bulldozer, drill rig and loaded truck) operating within 20 feet of the building.

In the event the regulatory level (0.12 PPV) is triggered, the contractor shall halt construction activities in the vicinity of the building and

visually inspect the building for any damage (by a qualified structural engineer). Results of the inspection must be logged. The contractor shall identify the source of vibration generation and provide technologically feasible steps to reduce the vibration level. Construction activities may then restart.

At the conclusion of vibration-causing construction, the qualified structural engineer shall issue a follow-up letter describing damage, if any, to immediately adjacent historic buildings and recommendations for repair, as may be necessary, in conformance with the Secretary of the Interior's Standards. Repairs to immediately adjacent historic buildings shall be undertaken and completed in conformance with all applicable codes, including the California Historical Building Code (Part 8 of Title 24).

Other mitigation measures considered to reduce vibration impacts from on-site construction activities with respect to human annoyance included the installation of a wave barrier, which is typically a trench or a thin wall made of sheet piles installed in the ground (essentially a subterranean sound barrier to reduce noise). However, wave barriers must be very deep and long to be effective and are not considered cost effective for temporary applications, such as construction.[65] In addition, constructing a wave barrier to reduce the Project's construction-related vibration impacts would, in and of itself, generate ground-borne vibration from the excavation equipment. Furthermore, it would not be technologically feasible to install a wave barrier along the public roadways for the off-site construction vibration impacts. Thus, it is concluded that there are no technologically feasible mitigation measures that could be implemented to reduce the temporary vibration impacts from on-site construction associated with human annoyance to a less-than-significant level.

(b) Operation Vibration Impacts

As discussed above, operation of the Project would not result in a significant vibration impact during operation, and no mitigation measures are required.

(3) Level of Significance After Mitigation

(a) Construction Vibration

Implementation of Mitigation Measure NOI-MM-2 would ensure the vibration levels at the exterior of the Security Trust and Savings Bank building adjacent to the Project Site (Block 8) would not exceed the significance criterion of 0.12 PPV. **Therefore, vibration**

[65] *Caltrans, Transportation and Construction Vibration Guidance Manual, p.41, April 2020.*

impacts associated with the on-site construction activities would be reduced to a -than-significant level.

However, Project-level vibration impacts from on-site construction activities would still exceed the 72-VdB human annoyance significance criterion at the residential uses within 80 feet of the Project Site (receptor locations R1, R2, R5, R7, R13, and R14) and the studio use (receptor location R9) during certain phases of construction. As discussed above, it is concluded that there are no technologically feasible mitigation measures that could be implemented to reduce the temporary vibration impacts from on-site and off-site construction associated with human annoyance to a less-than-significant level. **Therefore, Project-level vibration impacts from on-site and off-site construction activities with respect to human annoyance would remain significant and unavoidable.**

(b) Operation Vibration

As discussed above, vibration impacts associated with Project operation would be less than significant without mitigation. Therefore, no mitigation measures were required, and the impact level remains less than significant.

Threshold (c): 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?

As discussed in Section IV, Other CEQA Considerations, of this Draft EIR, and evaluated in the Initial Study prepared for the Project, included as Appendix A of this Draft EIR, the Project Site is not located within the vicinity of a private airstrip or an airport land use plan. However, the Project Site is located approximately 1.9 miles from the Hollywood Burbank Airport. Based on a report published by the City of Burbank, the Project Site is not located within the 65-dB CNEL noise contours for the airport.[66] Thus, the Project would not expose people residing or working in the project area to excessive airport-related noise levels. **Therefore, noise impacts with respect to Threshold (c) would be less than significant, and no further analysis of this issue is required.**

[66] *Bob Hope Airport 14 CFR Part 150 Noise Compatibility Study, Final Noise Compatibility Program Revision #2, March 2016. Hollywood Burbank Airport was known as Bob Hope Airport until December 2017.*

e. Cumulative Impacts

(1) Impact Analysis

The Project, together with the related projects and future growth, could contribute to cumulative noise impacts. The potential for cumulative noise impacts to occur is specific to the distance between each related project and their stationary noise sources, as well as the cumulative traffic that these projects would add to the surrounding roadway network.

(a) Construction Noise

(i) On-Site Construction Noise

As indicated in Section III, Environmental Setting, of this Draft EIR, 34 related projects have been identified in the vicinity of the Project Site and Off-Site Metro Parking Areas. Noise from construction of development projects is typically localized and has the potential to affect noise-sensitive uses within 500 feet from the construction site, based on the *L.A. CEQA Thresholds Guide* screening criteria. Thus, noise from construction activities for two projects within 1,000 feet of each other can contribute to a cumulative noise impact for receptors located midway between the two construction sites. Of the 34 related projects, 23 related projects are located more than 1,000 feet from the Project and with intervening building structures, which would not contribute to the cumulative on-site construction noise impacts. The following 11 related project are located within 1,000 feet of the Project Site and Off-Site Metro Parking Areas, which could contribute to the cumulative construction noise impacts.

- Related Project Nos. 3 (The Weddington, a residential development located at 11120 Chandler Boulevard nearest Block 4), 4 (a residential development located at 5508 Fulcher Avenue nearest Block 3), 7 (a residential development at 11433 Albers Street nearest Block 7), and 12 (a residential development located at 11525 Chandler Boulevard nearest Block 7) have been completed. Therefore, these related projects would not contribute to cumulative construction-related noise impacts.

- Related Project No. 1 (NoHo Lankershim Station, a mixed-use development) is located at 5401 Lankershim Boulevard, adjacent to the Project Site and nearest Block 7. The nearest sensitive use to the Project Site and Related Project No. 1 is receptor location R5, a residential use at the southwest corner of Lankershim Boulevard and Cumpston Street with a direct line-of-sight to both the Project and the Related Project No. 1. As indicated in Table IV.H-12 on page IV.H-38, the estimated noise from Project construction activities at receptor location R5 would be up to 8.6 dBA above the significance criterion prior to mitigation. Related Project No. 1 is adjacent to receptor location R5, which would increase the ambient noise level at that location by more than 5 dBA. Therefore, there is a

potential cumulative noise increase in the event of concurrent construction activities associated with the Project and Related Project No. 1.

- Related Project No. 2 (New NoHo Artwalk Project, a mixed-use development) is located at 11126 Chandler Boulevard, approximately 90 feet south of the Project Site, nearest Block 4. The nearest sensitive use to the Project Site and Related Project No. 1 is receptor location R3, a residential use along the south side of Chandler Boulevard with a direct line-of-sight to both the Project and Related Project No. 2. As indicated in Table IV.H-12 on page IV.H-38, the estimated noise from Project construction activities at receptor location R3 would be up to 11.7 dBA above the significance criterion prior to mitigation. Related Project No. 2 is adjacent to receptor location R3, which would increase the ambient noise level at this location by more than 5 dBA. Therefore, there is a potential cumulative noise increase in the event of concurrent construction activities associated with the Project and Related Project No. 2.

- Related Project No. 5 (a residential development) is located at 5513 Case Avenue, approximately 610 feet northeast of the Project Site, nearest Block 3. There are sensitive uses located between the Project Site and Related Project No. 5, including residential uses along Cumpston Street and receptor location R4 (East Valley High School). As indicated in Table IV.H-12 on page IV.H-38, the estimated noise from Project construction activities at receptor location R4 would be up to 0.9 dBA above the significance criterion. Related Project No. 5 is located across the street (Case Avenue) to receptor location R4, which would likely increase the ambient noise level at this location by more than 5 dBA. Therefore, there is a potential cumulative noise increase in the event of concurrent construction activities associated with the Project and Related Project No. 5.

- Related Project No. 6 (a residential development) is located at 11112 Burbank Boulevard, approximately 790 feet northeast of the Project Site, nearest Block 3. There are sensitive uses located between the Project Site and Related Project No. 6 (i.e., residential uses along Fulcher Avenue). However, there are existing building structures between the Project Site and Related Project No. 6, which would provide noise shielding between the two projects and the affected noise sensitive receptors. Therefore, construction-related noise from the Project and Related Project No. 6 would not contribute to cumulative construction-related noise impacts.

- Related Project No. 8 (a mixed-use development) is located at 5553 Tujunga Avenue, approximately 780 feet northeast of the Project Site, nearest Block 1. There are sensitive uses (i.e., residential uses) located between the Project Site and Related Project No. 8, including the residential use located along Albers Street and Cumpston Street (receptor location R6). However, there are existing building structures between the Project Site and Related Project No. 8, which would provide noise shielding between the two projects and the affected noise sensitive receptors. Therefore, construction-related noise from the Project and

Related Project No. 8 would not contribute to cumulative construction-related noise impacts.

- Related Project No. 9 (a residential development) is located at 11410 Burbank Boulevard, approximately 850 feet northeast of the Project Site, nearest Block 1. There are sensitive uses (i.e., residential uses) located between the Project Site and Related Project No. 9, including the residential use located along Albers Street and Cumpston Street (receptor location R6). However, there are existing building structures between the Project Site and the Related Project No. 9, which would provide noise shielding between the two projects and the affected noise sensitive receptors. Therefore, construction-related noise from the Project and Related Project No. 9 would not contribute to cumulative construction-related noise impacts.

- Related Project No. 11 (a fitness studio) is located at 5200 Lankershim Boulevard, approximately 850 feet south of the Project Site, nearest Block 4. There are sensitive uses (i.e., residential uses) located between the Project Site and Related Project No. 11, including the residential use located along Chandler Boulevard (receptor location R3). However, there are existing building structures between the Project Site and the Related Project No. 11, which would provide noise shielding between the two projects and the affected noise sensitive receptors, and construction for the fitness studio would likely be at the interior of the 5200 Lankershim Boulevard Building. Therefore, construction-related noise from the Project and Related Project No. 11 would not contribute to cumulative construction-related noise impacts.

Construction-related noise levels from the related projects would be intermittent and temporary, and it is anticipated that, as with the Project, the related projects would comply with the construction hours and other relevant provisions set forth in the LAMC. Noise associated with cumulative construction activities would be reduced to the degree technologically feasible through proposed mitigation measures for each individual related project that is required to implement them and compliance with locally adopted and enforced noise ordinances. Based on the above, there would be potential cumulative noise impacts at the nearby sensitive uses (e.g., residential uses) located in proximity to the Project Site and Off-Site Metro Parking Areas, Related Project Nos. 1, 2, and 5, in the event of concurrent construction activities. It should be noted that the timing of the construction activities for these related projects are uncertain and are beyond the control of the City and the Applicant. Accordingly, it is uncertain if the concurrent construction activities identified above would result in the exceedances identified herein. Nevertheless, this analysis conservatively assumes such exceedances would occur. **Therefore, the Project's contribution would be cumulatively considerable, and cumulative noise impacts from on-site construction would be significant.**

(ii) Off-Site Construction Noise

In addition to the cumulative impacts of on-site construction activities, off-site construction haul trucks would have a potential to result in cumulative impacts if the trucks for the related projects and the Project were to utilize the same truck routes. The haul truck routes for the related projects would be approved by LADOT and/or the Department of Building and Safety according to the location of the individual construction site and the ultimate destination. The City's established review process would take into consideration overlapping construction projects and would balance haul routes to minimize the impacts of cumulative hauling on any particular roadway. As analyzed above in Subsection 3.d. under Threshold (a) (see Table IV.H-15 and Table IV.H-16 on pages IV.H-38 and IV.H-53, respectively), the estimated off-site construction noise levels from the Project would exceed the significance criteria along the anticipated truck routes (along Burbank Boulevard [Option A], Lankershim Boulevard [Options A and B], Chandler Boulevard [Options A and B], Fair Avenue [Options A and B], Cumpston Street [Options A and B], Vineland Avenue [Option B], and Magnolia Boulevard [Option B]). Therefore, any additional truck trips along these roadways would have the potential to increase the traffic noise and contribute to the cumulative noise impacts.

As analyzed above, the estimated off-site construction traffic noise levels along Colfax Avenue, Tujunga Avenue and Riverside Drive (used for Block 7 and West Lot) would be below the 5-dBA significance criterion. However, it is estimated that if the total number of trucks from the Project and the related projects were to add up to 54, 63, and 74 truck trips per hour along Colfax Avenue [Options A and B], Tujunga Avenue (Option B], and Riverside Drive [Option B], respectively, these trucks would result in a 5-dBA noise increase along these roadway segments.[67] There are related projects in the vicinity of the Project Block 7 and West Lot and near Colfax Avenue, including Related Project Nos. 1, 12, and 24, which could contribute to the cumulative truck trips. Related Project Nos. 1, 7, 16, 17, 18, 22, 27, 28, and 29 are located in the vicinity of Tujunga Avenue and Riverside Drive, which could contribute to the cumulative truck trips with the Project. Since the Project generates up to 50 truck trips per hour, the cumulative truck trips, including the noted related projects, could add up to 54, 63, and 74 truck trips per hour along Colfax Avenue, Tujunga Avenue and Riverside Drive, respectively, which has the potential to increase the ambient noise by 5 dBA.

Therefore, cumulative noise due to construction truck traffic from the Project and other related projects could increase the ambient noise levels at certain segments along the haul route by 5 dBA. **As such, the Project's contribution would be cumulatively**

[67] *It is estimated that with 54 truck trips, the cumulative noise level along Colfax would be 72.2 dBA (70.5 dBA from construction traffic plus 67.2 dBA ambient), which is 5.0 dBA above the ambient noise level of 67.2 dBA.*

considerable, and cumulative noise impacts from off-site construction would be significant.

(iii) Summary of Cumulative Construction Noise Impacts

As discussed above, on-site and off-site construction activities from the Project and related projects have the potential to result in generation of noise levels in excess of standards established by the City. **Therefore, the Project's contribution would be cumulatively considerable, and cumulative noise impacts from on-site and off-site construction activities would be significant.**

(b) Operational Noise

The Project Site and surrounding area have been developed with uses that have previously generated, and would continue to generate, noise from a number of community noise sources, including mechanical equipment (e.g., HVAC systems), outdoor activity areas, and vehicle travel. Similar to the Project, each of the related projects that have been identified in the vicinity of the Project Site and Off-Site Metro Parking Areas would also generate stationary-source and mobile-source noise due to ongoing day-to-day operations. All related projects are of a residential, retail, commercial, or institutional nature, and these uses are not typically associated with excessive exterior noise levels. However, each project would produce traffic volumes that are capable of generating roadway noise impacts. The potential cumulative noise impacts associated with on- and off-site noise sources are addressed below.

(i) On-Site Stationary Noise Sources

Due to provisions set forth in the LAMC that limit stationary source noise from items, such as rooftop mechanical equipment, noise levels would be less than significant at the property line for each related project. In addition, as discussed above, noise impacts associated with operations within the Project Site would be less than significant. **Therefore, based on the distance of the related projects from the Project Site and the operational noise levels associated with the Project, the Project's contribution to stationary source noise impacts would not be cumulatively considerable, and cumulative impacts would be less than significant**.

(ii) Off-Site Mobile Noise Sources

The Project and related projects in the area would produce traffic volumes (off-site mobile sources) that would generate roadway noise. Cumulative noise impacts due to off-site traffic were analyzed by comparing the projected increase in traffic noise levels from "Existing" conditions to "Future Plus Project" conditions to the applicable significance criteria. Future Plus Project conditions include traffic volumes from future ambient growth,

related projects, and the Project. The calculated traffic noise levels under "Existing" and "Future Plus Project" conditions are presented in Table IV.H-33 on page IV.H-112. As shown therein, cumulative traffic volumes would result in an increase ranging from 0.1 dBA (CNEL) along the roadway segment of Chandler Boulevard (between Tujunga Avenue and Lankershim Boulevard) to up to 4.7 dBA (CNEL) along the roadway segment of Weddington Street (between Tujunga Avenue and Bakman Avenue). The estimated cumulative noise increase along Weddington Street would be below the 5-dBA significance criterion (applicable to noise levels less than 70 dBA CNEL). The estimated noise levels along all other analyzed roadway segments would be below the 3-dBA significance criterion (applicable to noise levels of 70 dBA CNEL and higher) and the 5-dBA significance criterion (applicable to noise levels less than 70 dBA CNEL). **Therefore, the Project's contribution to noise impacts due to off-site mobile noise sources would not be cumulatively considerable, and cumulative impacts would be less than significant.**

(iii) Summary of Cumulative Operational Noise Impacts

As discussed above, on-site and off-site noise sources associated with the operation of the Project and related projects would not result in the exposure of persons to or generation of noise levels in excess of the significance criteria established by the City or in a substantial permanent increase in ambient noise levels in the vicinity of the Project Site above levels existing without the Project and the related projects. **Therefore, cumulative operational noise impacts from on-site and off-site sources would be less than significant.**

(c) Construction Vibration

(i) On-Site Construction Vibration

As previously discussed, ground-borne vibration decreases rapidly with distance. Potential vibration impacts due to construction activities are generally limited to buildings/structures that are located in proximity to the construction site (i.e., within 20 feet as related to building damage and 80 feet as related to human annoyance at residential uses).[68] As indicated above, the closest related project, Related Project No. 1, is adjacent to the Project Site (Block 7). The nearest off-site structure to Related Project No. 1 is the residential tower located at the southwest corner of Lankershim Boulevard and Cumpston Street (receptor location R5), which is approximately 25 feet from Related Project No. 1. In addition, the residential tower would have the highest vibration threshold (i.e., 0.5 PPV), as it is a newly constructed building (i.e., reinforced structure). Therefore, based on distance

[68] *Distances calculated based on estimated vibration levels for typical construction equipment at a distance which would be below the 72 VdB significance threshold with respect to human annoyance and 0.12 PPV significance threshold applicable to buildings extremely susceptible to vibration damage (i.e., historic structures).*

Table IV.H-33
Cumulative Roadway Traffic Noise Impacts

Roadway Segment	Adjacent Land Use	Calculated Traffic Noise Levels[a] (CNEL (dBA))		Increase in Noise Levels Due to Cumulative + Project (CNEL (dBA))	Significance Criteria (Noise Increase),[b] (CNEL (dBA))	Significant Impact?
		Existing Conditions	Future Cumulative Plus Project			
Tujunga Avenue						
– Between Burbank Blvd. and Cumpston St.	Commercial	63.3	65.7	2.4	5	No
– Between Cumpston St. and Chandler Blvd.	Residential	65.3	67.1	1.8	5	No
– Between Chandler Blvd. and Magnolia St.	Residential, Hotel, School, Religious, Park	67.0	68.6	1.6	5	No
– Between Magnolia St. and Camarillo St.	Residential, Park	69.4	70.5	1.1	3	No
Lankershim Boulevard						
– Between Burbank Blvd. and Cumpston St.	Commercial	68.7	69.3	0.6	5	No
– Between Cumpston St. and Chandler Blvd.	Residential	68.2	69.3	1.1	5	No
– Between Chandler Blvd. and Magnolia St.	Theater, Studio	67.7	69.7	2.0	5	No
– Between Magnolia St. and Camarillo St.	Residential, Religious	68.1	69.1	1.0	5	No
Vineland Avenue						
– Between Burbank Blvd. and Chandler Blvd.	School	69.6	70.3	0.7	3	No
– Between Chandler Blvd. and Magnolia St.	Residential, Studio	69.5	70.4	0.9	3	No
– Between Magnolia St. and Camarillo St.	Residential, Religious	69.1	69.9	0.8	5	No
Fair Avenue						
– Between Cumpston St. and Chandler Blvd.	Residential	63.4	64.5	1.1	5	No
Colfax Avenue						
– Between Burbank Blvd. and Chandler Blvd.	Residential	67.0	67.9	0.9	5	No
Elmer Avenue						
– Between Burbank Blvd. and Cumpston St.	Residential	59.0	59.5	0.5	5	No
Klump Avenue						
– Between Burbank Blvd. and Cumpston St.	Residential	59.2	60.0	0.8	5	No
Bonner Avenue						
– Between Burbank Blvd. and Cumpston St.	Residential	57.0	57.4	0.4	5	No

Table IV.H-33 (Continued)
Cumulative Roadway Traffic Noise Impacts

Roadway Segment	Adjacent Land Use	Calculated Traffic Noise Levels[a] (CNEL (dBA))		Increase in Noise Levels Due to Cumulative + Project (CNEL (dBA))	Significance Criteria (Noise Increase),[b] (CNEL (dBA))	Significant Impact?
		Existing Conditions	Future Cumulative Plus Project			
Cumpston Avenue						
– Between Camellia Ave. and Tujunga Ave.	Residential	59.4	61.1	1.7	5	No
– Between Tujunga Ave. and Lankershim Blvd.	Residential	63.0	64.6	1.6	5	No
– Between Lankershim Blvd. and Fair Ave.	Residential	66.7	67.6	0.9	5	No
– Between Fair Ave. and Case Ave.	Residential	64.8	65.6	0.8	5	No
Burbank Boulevard						
– Between Colfax Ave. and Lankershim Blvd.	Residential, Religious	69.7	70.5	0.8	3	No
– Between Lankershim Blvd. and Vineland Ave.	Residential, Hotel	67.7	68.5	0.8	5	No
Chandler Boulevard						
– Between Colfax Ave. and Tujunga Ave.	Residential	67.3	68.0	0.7	5	No
– Between Tujunga Ave. and Lankershim Blvd.	Commercial	67.8	67.9	0.1	5	No
– Between Lankershim Blvd. and Vineland Ave.	Residential, School	67.7	69.7	2.0	5	No
Weddington Street						
– Between Tujunga Ave. and Bakman Ave.	Hotel, Religious	61.0	65.7	4.7	5	No
– Between Bakman Ave. and Lankershim Blvd.	Theater, Studio	61.8	65.6	3.8	5	No
– Between Lankershim Blvd. and Blakeslee Ave.	Residential, Studio	64.5	65.0	0.5	5	No
Magnolia Boulevard						
– Between CA-170. and Tujunga Ave.	Park	69.9	71.4	1.5	3	No
– Between Tujunga Ave. and Lankershim Blvd.	School	69.2	70.5	1.3	3	No
– Between Lankershim Blvd. and Vineland Ave.	Residential, Theater	68.4	69.4	1.0	5	No

[a] *Detailed calculation worksheets are included in Appendix L of this Draft EIR.*

Source: AES, 2020.

attenuation, potential cumulative vibration impacts with respect to the building damage from the Project and Related Project No. 1 would be less than significant. In addition, there are no historic structures within 20 feet of Related Project No. 1, which would be impacted by construction activities. **As such, the Project's contribution to a construction vibration impact with respect to building damage associated with on-site construction would not be cumulatively considerable, and the cumulative impact would be less than significant.**

As discussed above, potential vibration impacts associated with Project-related on-site construction activities would be significant with respect to human annoyance at receptor location R5 (the closest sensitive receptor between the Project and Related Project No. 1). Related Project No. 1 is approximately 25 feet from the receptor location R5. Therefore, the ground-borne vibration from Related Project No. 1 to the receptor location R5 would be similar to the Project and would exceed the 72-VdB significance thresholds. The next closest related project, Related Project No. 2, is located on the south side of Chandler Boulevard, approximately 90 feet south of the East Lot. The nearest sensitive receptor to Related Project No. 2 is receptor location R3. As analyzed above, the estimated vibration levels from the Project to the receptor location R3 would be 69 VdB, which is below the 72 VdB. In addition, construction activities at Related Project No. 2 would be more than 80 feet from the receptor location R3. Therefore, the Project construction would not contribute to the cumulative construction vibration impacts at receptor location R3. All other related projects would be located at a further distance and would not contribute to the cumulative vibration impacts. **Therefore, because of the potential impact associated with Related Project No. 1, the Project's contribution to a potential construction vibration impact with respect to human annoyance associated with on-site construction would be cumulatively considerable, and cumulative impacts would be considered significant.**

(ii) Off-Site Construction Vibration

As previously discussed, based on FTA data, the vibration generated by a typical heavy truck would be approximately 63 VdB (0.00566 PPV) at a distance of 50 feet from the truck.[69] In addition, according to the FTA "[i]t is unusual for vibration from sources such as buses and trucks to be perceptible, even in locations close to major roads." As discussed above, there are existing buildings that are approximately 20 feet from the right-of-way of the anticipated truck route(s) for the Project (i.e., Burbank Boulevard, Lankershim Boulevard, Cumpston Street, Chandler Boulevard, Fair Avenue, Vineland Avenue, Tujunga Avenue, Colfax Avenue, Magnolia Boulevard, and Riverside Drive). These buildings are anticipated to be exposed to ground-borne vibration levels of

[69] *FTA, "Transit Noise and Vibration Impact Assessment," Figure 5-4, September 2018.*

approximately 0.022 PPV. Trucks from the related projects are expected to generate similar ground-borne vibration levels. Therefore, the vibration levels generated from off-site construction trucks associated with the Project and other related projects along the anticipated truck route(s) would be below the most stringent building damage significance criterion of 0.12 PPV for buildings extremely susceptible to vibration. **As such, the Project's contribution to potential vibration impacts with respect to building damage from off-site construction would not be cumulatively considerable, and cumulative impacts would be less than significant.**

As discussed above, potential vibration impacts associated with temporary and intermittent vibration from project-related construction trucks traveling along the anticipated truck routes (i.e., Burbank Boulevard, Lankershim Boulevard, Cumpston Street, Fair Avenue, Tujunga Avenue, Colfax Avenue, and Magnolia Boulevard) would be significant with respect to human annoyance. As related projects would be anticipated to use similar trucks as the Project (i.e., Burbank Boulevard, Lankershim Boulevard, Tujunga Avenue, Colfax Avenue, and Magnolia Boulevard), it is anticipated that construction trucks would generate similar vibration levels along the anticipated truck route(s). **Therefore, to the extent that other related projects use the same truck route as the Project, the Project's contribution to potential cumulative vibration impacts with respect to human annoyance associated with temporary and intermittent vibration from haul trucks traveling along the designated truck route(s) would be cumulatively considerable, and cumulative impacts would be considered significant.**

(iii) Summary of Cumulative Construction Vibration Impacts

As discussed above, due to the rapid attenuation characteristics of ground-borne vibration and given the distance of the nearest related project to the Project Site and Off-Site Metro Parking Areas, there is no potential for a cumulative construction vibration impact with respect to building damage associated with ground-borne vibration from on-site sources. In addition, potential cumulative vibration impacts with respect to building damage from off-site construction would be less than significant. **Therefore, on-site and off-site construction activities associated with the Project and related projects would not generate excessive ground-borne vibration levels with respect to building damage**.

Cumulative construction vibration impacts from on-site construction activities pursuant to the significance criteria for human annoyance would be significant in the event concurrent construction of the Project and the related projects (during demo and grading phases, with the use of heavy construction equipment, such as, large bulldozer, drill rig, and loaded truck) were to occur. In addition, to the extent that other related projects use the same truck route(s) as the Project, potential cumulative human annoyance impacts associated with temporary and intermittent vibration from haul trucks traveling along the

designated truck route(s) would be significant. **As such, cumulative vibration impacts with respect to human annoyance associated with on-site and off-site construction activities would be significant.**

(d) Operational Vibration

Vibration levels from project operation are generally limited to building mechanical equipment and vehicle circulations and would be limited to immediate vicinity of the project sites. The related projects (mixed-use and commercial developments) would generate similar vibration levels as the Project. As described above, the nearest related project is Related Project No. 1 (a mixed-use development) adjacent to the Project Site. As analyzed above, Project operation would not result in the generation of excessive ground-borne vibration levels that would be perceptible in the vicinity of the Project Site. Similarly, Related Project No. 1 is not anticipated to generate excessive ground-borne vibration. **Therefore, based on the distance of the related projects from the Project Site and the operational vibration levels associated with the Project, the Project's contribution to vibration impacts would not be cumulatively considerable, and cumulative impacts would be less than significant**.

(2) Mitigation Measures

(a) Construction Noise

As analyzed above, there would be potential cumulative noise impacts at the nearby sensitive uses (e.g., residential uses) located in proximity to the Project Site, Related Project Nos. 1, 2, and 5 in the event of concurrent construction activities. Noise associated with cumulative construction activities would be reduced to the degree technologically feasible through proposed mitigation measures (e.g., providing temporary noise barriers) for each individual related project. However, even with these mitigation measures, significant cumulative noise impacts would continue to occur and there are no other physical mitigation measures that would be technologically feasible.

As analyzed above, cumulative noise impacts associated with off-site construction trucks from the Project and other related projects could occur. Conventional mitigation measures, such as providing temporary noise barrier walls to reduce the off-site construction truck traffic noise impacts, would not be technologically feasible as the barriers would obstruct the access and visibility to the properties along the anticipated truck routes. There are no other technologically feasible mitigation measures to reduce the temporary significant noise impacts associated with the cumulative off-site construction trucks.

(b) Operational Noise

As discussed above, cumulative operational noise impacts from on-site and off-site sources would be less than significant. Therefore, no mitigation measures are required.

(c) Construction Vibration

Cumulative vibration impacts with respect to building damage associated with on-site and off-site construction activities would be less than significant. In addition, cumulative on-site and off-site vibration impacts with respect to human annoyance would be significant. There are no technologically feasible mitigation measures to reduce the potential vibration human annoyance impacts.

(d) Operational Vibration

Cumulative vibration impacts associated with operation of the Project and related projects would be less than significant. Therefore, no mitigation measures are required.

(3) Level of Significance after Mitigation

(a) Construction Noise

Cumulative construction noise impacts associated with on-site noise sources and off-site construction traffic would remain significant and unavoidable.

(b) Operational Noise

Cumulative impacts related to on-site and off-site operational noise would be less than significant. Therefore, no mitigation measures were required, and the impact level remains less than significant.

(c) Construction Vibration

Cumulative vibration impacts with respect to building damage from on-site and off-site construction activities would be less than significant. However, cumulative vibration impacts with respect to human annoyance associated with on-site and off-site construction activities would be significant and unavoidable.

(d) Operational Vibration

Cumulative impacts related to operational vibration would be less than significant. Therefore, no mitigation measures were required, and the level of impact remains less than significant.