Appendix 9

Noise Impact Analysis

BEYOND FOOD MART (CLINTON KEITH ROAD & JANA LANE) NOISE IMPACT ANALYSIS

City of Wildomar
August 22, 2022
Revised October 28, 2022

ganddini

Traffic Engineering ● Transportation Planning ● Parking ● Noise & Vibration
Air Quality ● Global Climate Change ● Health Risk Assessment

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City of Wildomar

August 22, 2022
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Project No. 19510

TABLE OF CONTENTS

APPENDICES

LIST OF TABLES

LIST OF FIGURES

EXECUTIVE SUMMARY

The approximately 4.35-acre project site is located at the southwest corner of the intersection of Clinton Keith Road and Jana Lane in the City of Wildomar. The project site is currently vacant.

The currently vacant site is proposed to include a 16 fueling position convenience store/gas station, and automated car wash, 3,800 square feet of fast-food restaurant with drive-thru, and 14,500 square feet of general office. The project site proposes one access driveway to Clinton Keith Road and three access driveways to Jana Lane. The project driveway on Clinton Keith Road will be restricted to right turns in/out only. The three project driveways on Jana Lane will be full access. For purposes of this analysis, the proposed project is anticipated to be constructed and fully operational by year 2024. The proposed car wash and car wash vacuums will not be in operation between the hours of 10:00 PM and 7:00 AM.

Construction Impacts

Modeled unmitigated construction noise levels reached 67.9 dBA L_{eq} at the nearest residential property line along Mauri Court to the northwest, 68.4 dBA L_{eq} at the nearest residential property line along Benetta Court to the northeast, 62.6 dBA L_{eq} at the nearest residential property line along Crimson Lasso Drive to the east, 62.8 dBA L_{eq} at the nearest residential property line along Horseshoe Court to the east, 72.8 dBA L_{eq} at the nearest residential property line to the east of the project site at 36120 Jana Lane, and 61.5 dBA L_{eq} at the nearest residential property line to the southeast of the project site at 36254 Jana Lane. However, project construction will not occur outside of the hours outlined as "exempt" in the City of Wildomar Municipal Code Section 9.48.020 (as follows) and therefore, will not result in or generate 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.

The City's Municipal Code Section 9.48.020 exempts construction noise from the City's noise standards as long as either the construction noise source it is located one-quarter of a mile or more from an inhabited dwelling or if within on-quarter mile of an inhabited dwelling it does not take place between the hours of 6:00 PM and 6:00 AM during the months of June through September and 6:00 PM and 7:00 AM during the months of October through May.

Project construction activities are expected to comply with the above allowed hours. Impacts would be less than significant, and no mitigation is required.

In addition to adherence to the City of Wildomar Municipal Code which limits the construction hours of operation, the following best management practices will be implemented to further reduce construction noise emanating from the proposed project:

Construction Noise - Best Management Practices

1. All construction equipment, fixed or mobile, will be equipped with properly operating and maintained mufflers, consistent with manufacturer standards.

2. All stationary construction equipment will be placed so that emitted noise is directed away from the noise sensitive receptors nearest the project site.

3. As applicable, shut off all equipment when not in use.

4. Equipment staging shall be located in areas that create the greatest distance between construction-related noise/vibration sources and sensitive receptors surrounding the project site.

5. Jackhammers, pneumatic equipment, and all other portable stationary noise sources will be directed away from existing residences east of the project site. Either one-inch plywood or sound blankets can be utilized for this purpose. They should reach up from the ground and block the line of sight between equipment and the nearest off-site residences. The shielding should be without holes and cracks.

6. No amplified music and/or voice will be allowed on the project site.

7. Haul truck deliveries will not occur outside of the hours presented as exempt for construction per City's Municipal Code Section 9.48.020.

Construction truck trips would occur throughout the construction period. It is widely accepted that the average healthy ear can barely perceive changes of 3 dBA. According to the FHWA, and existing traffic volumes would need to be doubled in order to result in a 3 dBA CNEL increase. The estimated existing average daily trips along Clinton Keith Road in the vicinity of the project site range between 18,492 and 36,108 average daily vehicle trips and the existing average daily vehicle trips along Jana Lane are 240 average daily vehicle trips.[1] As shown in the CalEEMod output files provided in the Air Quality, Global Climate Change, and Energy Impact Analysis prepared for the proposed project (Ganddini Group, 2022) the greatest number of construction-related vehicle trips per day would be during building construction at up to 109 vehicle trips per day (78 for worker trips and 31 for vendor trips). Given the project site's proximity to the 15 Freeway, it is anticipated that vendor and/or haul truck traffic would take the most direct route to the appropriate freeway ramps. Therefore, the addition of project vendor/haul trucks and worker vehicles per day along off-site roadway segments would not be anticipated to result in a doubling of traffic volumes. Off-site project generated construction vehicle trips would result in a negligible noise level increase and would not result in a substantial increase in ambient noise levels. Impacts would be less than significant. No mitigation measures are required.

Project Operational Noise – Off-site Traffic

To determine if project traffic would result in a substantial increase in ambient noise levels, noise associated with project generated vehicle trips were modeled for the existing and existing plus project conditions utilizing FHWA Traffic Noise Prediction Model FHWA-RD-77-108 methodology. As shown in the modeling, project generated vehicle traffic along the segment of Jana Lane south of Clinton Keith Road is anticipated to increase the noise by up to approximately 7 dBA CNEL. The existing traffic noise level was modeled at 49 dBA CNEL and the existing plus project noise level was modeled at 57 dBA CNEL along this roadway segment. The majority of the existing land use along the portion of Jana Lane affected by the proposed project generated vehicle trips are that of commercial and/or industrial uses with the exception of one single-family residence at 36120 Jana Lane. Therefore, although the project generated vehicle trips result in an increase above 3 dBA CNEL along the segment of Jana Lane south of Clinton Keith Road, project generated vehicle traffic does not raise the ambient noise level from below the applicable standard to above the applicable standard (60 dBA CNEL for single-family residential uses). Project generated vehicle traffic along all other modeled roadway segments is anticipated to increase the noise between approximately 0.06 to 1.05 dBA CNEL. Therefore, project generated increases in ambient noise levels would result in less than 3 dBA CNEL increases along these segments. Impacts from project generated vehicle trips would be considered less than significant.

Project Operational Noise – On-site Operations

Peak hour project operational noise levels, which are expected to occur between 7:00 AM and 10:00 PM will range between 39 and 65 dBA L_{eq} at the nearest receptors; and nighttime noise levels at the nearest sensitive receptors will range between 35 and 60 dBA L_{eq} (see Figures 8 and 9). As shown below, project operational noise would not exceed daytime or nighttime noise standards. Impacts would be less than significant. No mitigation is required.

[1] Existing average daily traffic volumes were calculated from the PM peak hour intersection turning movement volumes provided in the project's traffic impact analysis (Ganddini Group, Inc., July 20, 2022).

Project Operational Noise

Direction From Project Site	Land Use Designation	Applicable Standards (day/night) (dBA, L_{eq})	Modeled Noise Level (day/night) (dBA, L_{eq})	Exceeds Standards? (day/night)
North	Medium Density Residential	55/45	50/47	No
South	Medium High Density Residential	55/45	40/35	No
East	Business Park	65/45	64/52	No
West	Business Park	65/45	65/60	No

Groundborne Vibration Impacts

Caltrans identifies a PPV level of 0.3 in/sec as the threshold at which there is a risk to "architectural" damage to older residential structures and a PPV level of 0.5 in/sec for commercial buildings. The closest residential structures are located approximately 145 feet to the north of the project site. Therefore, the threshold of 0.3 in/sec PPV for older residential structures will not be exceeded at nearby residential uses; however, the commercial threshold of 0.5 in/sec PPV has the potential to be exceeded at the commercial structures located to the south and west of the project site. Best management practices prohibiting the use of a vibratory roller within 14 feet or a large bulldozer within 8 feet of existing commercial structures to the south and west of the project site will reduce potential impacts. With incorporation of best management practices, potential impacts related to architectural damage would be reduced to less than significant.

Annoyance - Groundborne vibration becomes strongly perceptible to sensitive receptors at a level of 0.1 in/sec PPV. Operation of a vibratory roller may result in groundborne vibration levels of up to 0.1 at a distance of 41 feet and a large bulldozer at a distance of 23 feet. Due to distance to the nearest sensitive receptors, vibration related annoyance would not occur. Furthermore, annoyance will be short-term and will occur only during site grading and preparation which will be limited to daytime hours. Impacts are less than significant.

Vibration Best Management Practices

1. Vibratory rollers, or other similar vibratory equipment, will not be utilized within 15 feet or a large bulldozer within 8 feet of existing commercial structures to the south and west of the project site.

1. INTRODUCTION

This section describes the purpose of this noise impact analysis, project location, proposed development, and study area. Figure 1 shows the project location map and Figure 2 illustrates the project site plan.

PURPOSE AND OBJECTIVES

The purpose of this report is to provide an assessment of the noise impacts resulting from development of the proposed Beyond Food Mart (Clinton Keith Road & Jana Lane) project and to identify mitigation measures that may be necessary to reduce those impacts. The noise issues related to the proposed land use and development have been evaluated in light of applicable federal, state and local policies, including those of the City of Wildomar.

Although this is a technical report, every effort has been made to write the report clearly and concisely. To assist the reader with those terms unique to noise analysis, a list of acronyms and a glossary of terms have been provided in Appendix A and Appendix B of this report, respectively.

PROJECT LOCATION

The approximately 4.35-acre project site is located at the southwest corner of the intersection of Clinton Keith Road and Jana Lane in the City of Wildomar. The project site is currently vacant. A vicinity map showing the project location is provided on Figure 1.

PROJECT DESCRIPTION

The currently vacant site is proposed to include a 16 fueling position convenience store/gas station, and automated car wash, 3,800 square feet of fast-food restaurant with drive-thru, and 14,500 square feet of general office. The project site proposes one access driveway to Clinton Keith Road and three access driveways to Jana Lane. The project driveway on Clinton Keith Road will be restricted to right turns in/out only. The three project driveways on Jana Lane will be full access. For purposes of this analysis, the proposed project is anticipated to be constructed and fully operational by year 2024. Figure 2 illustrates the project site plan.

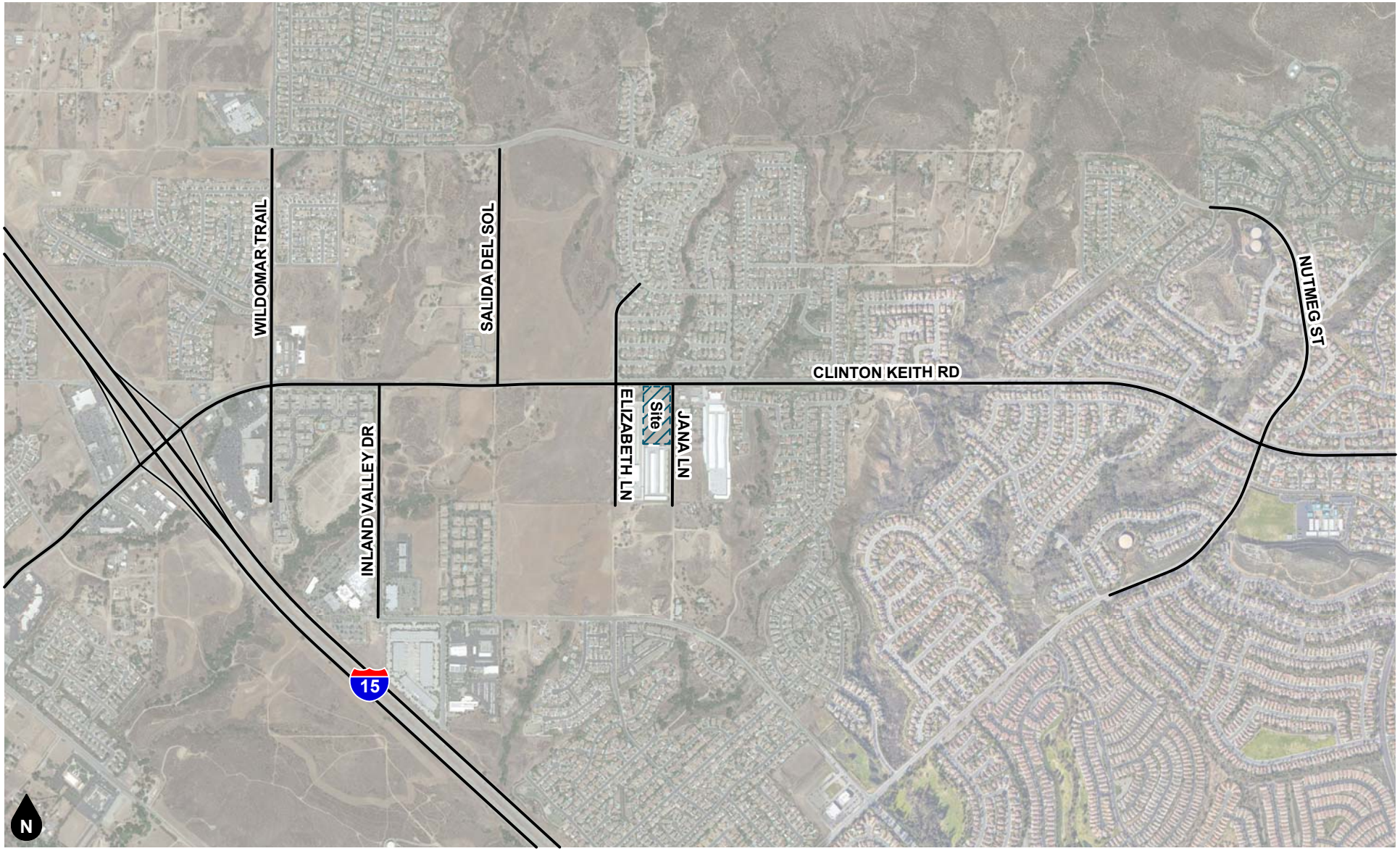


Figure 1
Project Location Map

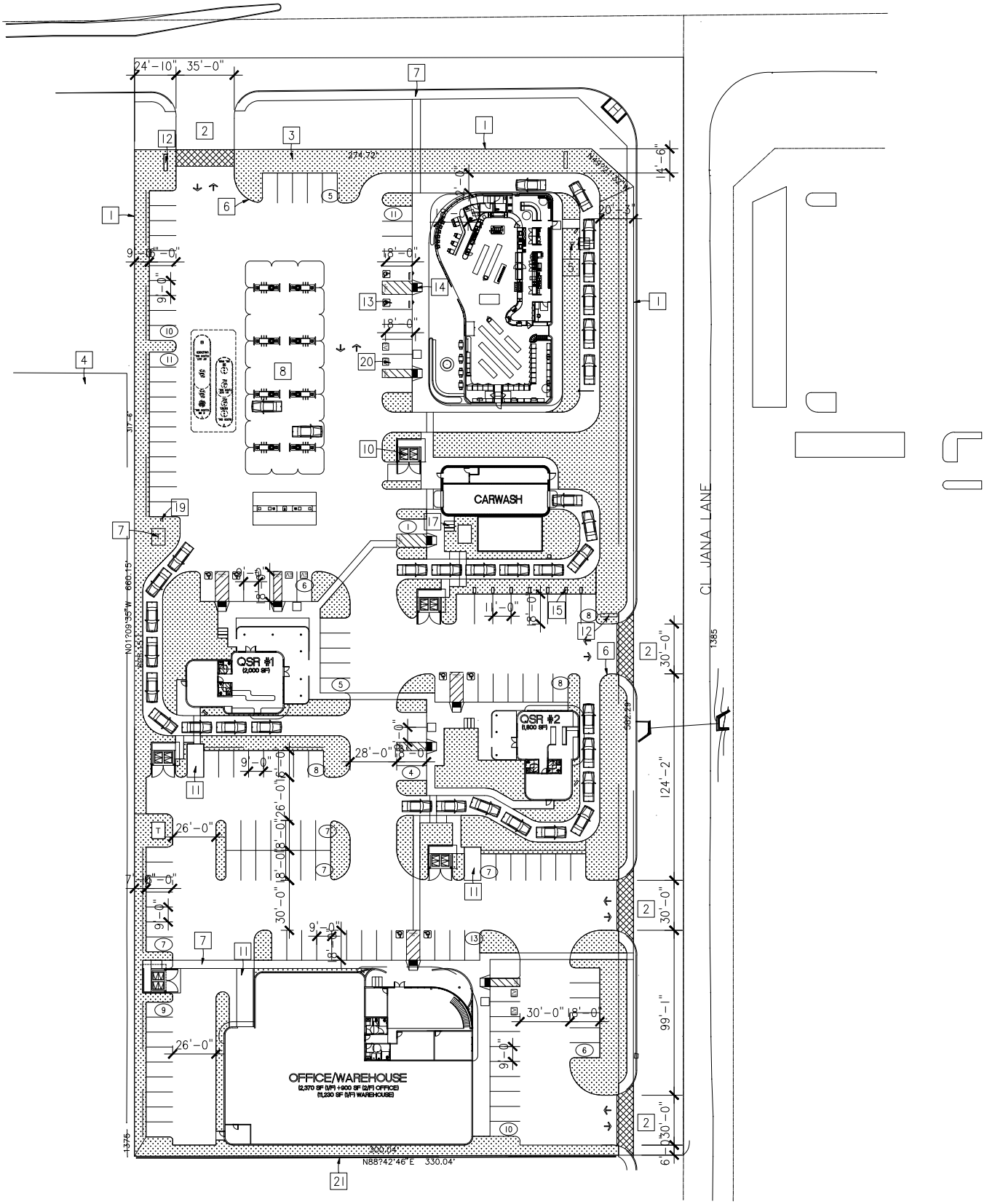


Figure 2
Site Plan

2. NOISE AND VIBRATION FUNDAMENTALS

NOISE FUNDAMENTALS

Sound is a pressure wave created by a moving or vibrating source that travels through an elastic medium such as air. Noise is defined as unwanted or objectionable sound. The effects of noise on people can include general annoyance, interference with speech communication, sleep disturbance, and in extreme circumstances, hearing impairment.

Commonly used noise terms are presented in Appendix B. The unit of measurement used to describe a noise level is the decibel (dB). The human ear is not equally sensitive to all frequencies within the sound spectrum. Therefore, the "A-weighted" noise scale, which weights the frequencies to which humans are sensitive, is used for measurements. Noise levels using A-weighted measurements are written dB(A) or dBA.

From the noise source to the receiver, noise changes both in level and frequency spectrum. The most obvious is the decrease in noise as the distance from the source increases. The manner in which noise reduces with distance depends on whether the source is a point or line source as well as ground absorption, atmospheric effects and refraction, and shielding by natural and manmade features. Sound from point sources, such as air conditioning condensers, radiates uniformly outward as it travels away from the source in a spherical pattern. The noise drop-off rate associated with this geometric spreading is 6 dBA per each doubling of the distance (dBA/DD). Transportation noise sources such as roadways are typically analyzed as line sources, since at any given moment the receiver may be impacted by noise from multiple vehicles at various locations along the roadway. Because of the geometry of a line source, the noise drop-off rate associated with the geometric spreading of a line source is 3 dBA/DD.

Decibels are measured on a logarithmic scale, which quantifies sound intensity in a manner similar to the Richter scale used for earthquake magnitudes. Thus, a doubling of the energy of a noise source, such as a doubled traffic volume, would increase the noise levels by 3 dBA; halving of the energy would result in a 3 dBA decrease. Figure 3 shows the relationship of various noise levels to commonly experienced noise events.

Average noise levels over a period of minutes or hours are usually expressed as dBA L_{eq}, or the equivalent noise level for that period of time. For example, $L_{eq(3\text{-}hr)}$ would represent a 3-hour average. When no period is specified, a one-hour average is assumed.

Noise standards for land use compatibility are stated in terms of the Community Noise Equivalent Level (CNEL) and the Day-Night Average Noise Level (DNL). CNEL is a 24-hour weighted average measure of community noise. CNEL is obtained by adding five decibels to sound levels in the evening (7:00 PM to 10:00 PM), and by adding ten decibels to sound levels at night (10:00 PM to 7:00 AM). This weighting accounts for the increased human sensitivity to noise during the evening and nighttime hours. DNL is a very similar 24-hour average measure that weights only the nighttime hours.

It is widely accepted that the average healthy ear can barely perceive changes of 3 dBA; that a change of 5 dBA is readily perceptible, and that an increase (decrease) of 10 dBA sounds twice (half) as loud. This definition is recommended by the California Department of Transportation's Technical Noise Supplement to the Traffic Noise Analysis Protocol (2013).

VIBRATION FUNDAMENTALS

The way in which vibration is transmitted through the earth is called propagation. Propagation of earthborn vibrations is complicated and difficult to predict because of the endless variations in the soil through which waves travel. There are three main types of vibration propagation: surface, compression and shear waves. Surface waves, or Rayleigh waves, travel along the ground's surface. These waves carry most of their energy along an expanding circular wave front, similar to ripples produced by throwing a rock into a pool of water.

Compression waves, or P-waves, are body waves that carry their energy along an expanding spherical wave front. The particle motion in these waves is longitudinal (i.e., in a "push-pull" fashion). P-waves are analogous to airborne sound waves. Shear waves, or S-waves, are also body waves that carry energy along an expanding spherical wave front. However, unlike P-waves, the particle motion is transverse or "side-to-side and perpendicular to the direction of propagation".

As vibration waves propagate from a source, the energy is spread over an ever-increasing area such that the energy level striking a given point is reduced with the distance from the energy source. This geometric spreading loss is inversely proportional to the square of the distance. Wave energy is also reduced with distance as a result of material damping in the form of internal friction, soil layering, and void spaces. The amount of attenuation provided by material damping varies with soil type and condition as well as the frequency of the wave.

Vibration amplitudes are usually expressed as either peak particle velocity (PPV) or the root mean square (RMS) velocity. The PPV is defined as the maximum instantaneous peak of the vibration signal in inches per second. The RMS of a signal is the average of the squared amplitude of the signal in vibration decibels (VdB), ref one micro-inch per second. The Federal Railroad Administration uses the abbreviation "VdB" for vibration decibels to reduce the potential for confusion with sound decibel.

PPV is appropriate for evaluating the potential of building damage and VdB is commonly used to evaluate human response. Decibel notation acts to compress the range of numbers required in measuring vibration. Similar to the noise descriptors, L_{eq} and L_{max} can be used to describe the average vibration and the maximum vibration level observed during a single vibration measurement interval. Figure 4 illustrates common vibration sources and the human and structural responses to ground-borne vibration. As shown in the figure, the threshold of perception for human response is approximately 65 VdB; however, human response to vibration is not usually substantial unless the vibration exceeds 70 VdB. Vibration tolerance limits for sensitive instruments such as magnetic resonance imaging (MRI) or electron microscopes could be much lower than the human vibration perception threshold.

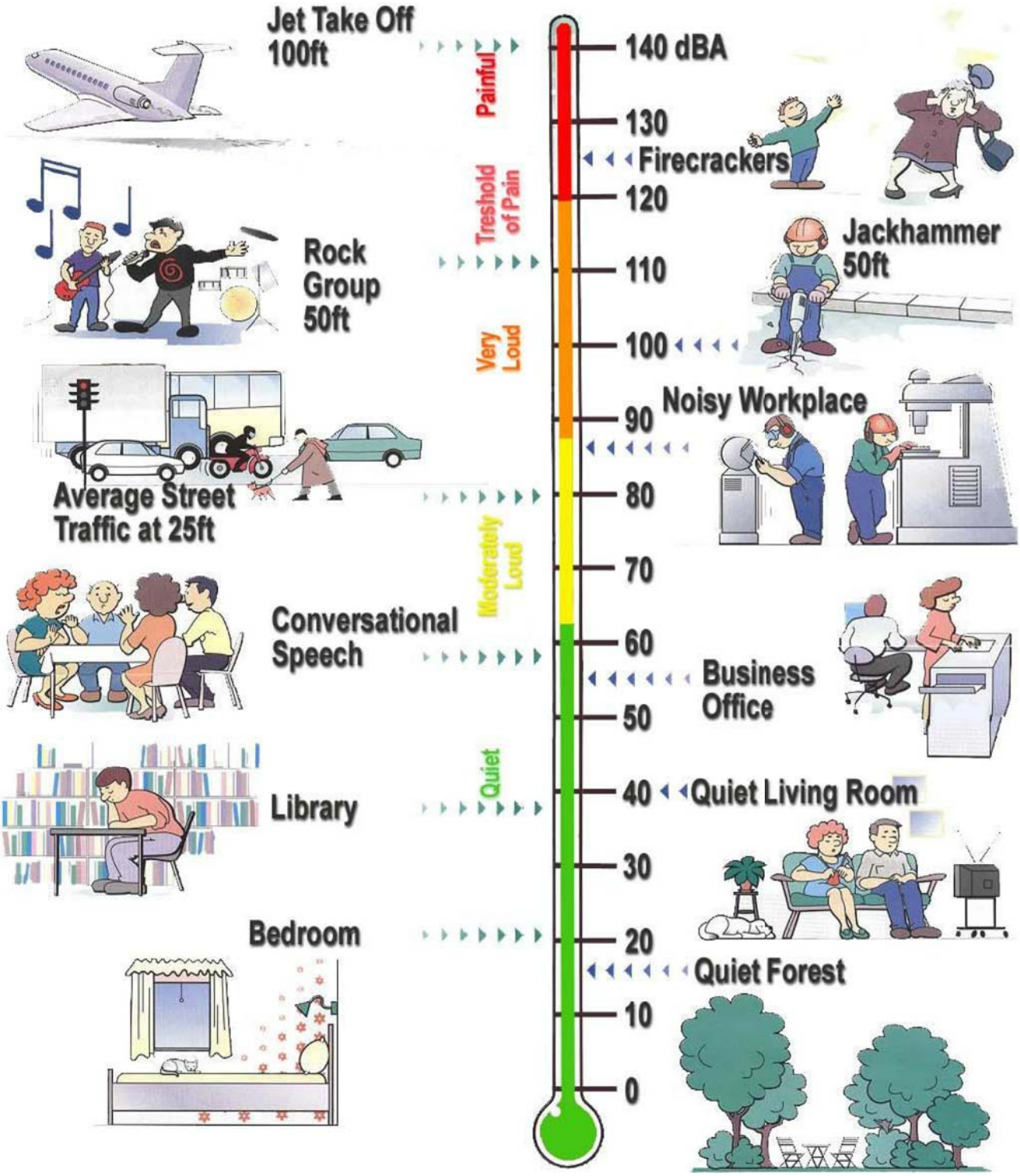
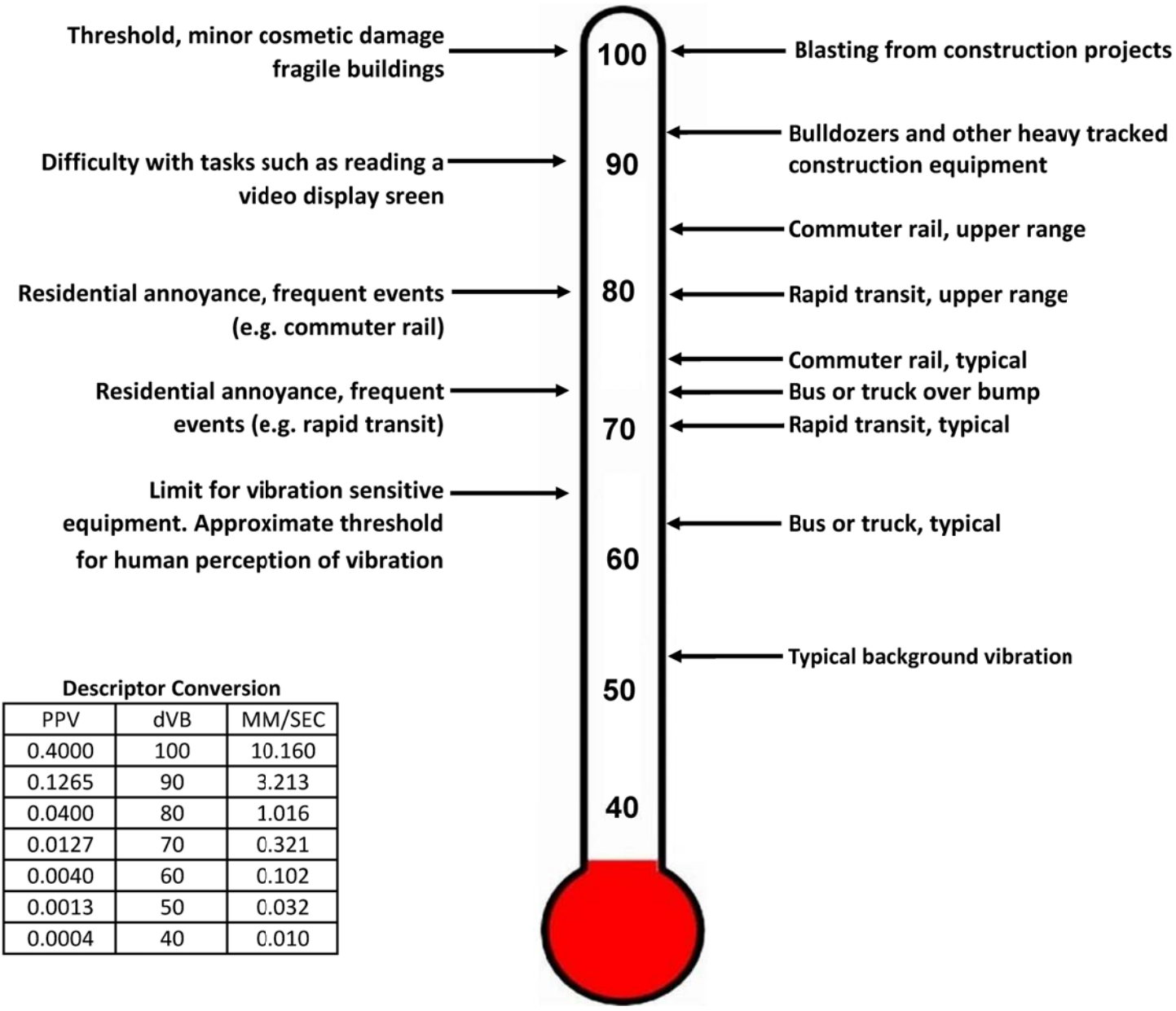


Figure 3
Weighted Sound Levels in Common Environments

Source: Bruel & Kjaer 2001



Descriptor Conversion

PPV	dVB	MM/SEC
0.4000	100	10.160
0.1265	90	3.213
0.0400	80	1.016
0.0127	70	0.321
0.0040	60	0.102
0.0013	50	0.032
0.0004	40	0.010

Source: FRA, 2012. Federal Railroad Administration High-Speed Ground Transportation Noise and Vibration Impact Assessment. Office of Railroad Policy Development, Washington, D.C. DOT/FRA/ORD-12/15. September.

Figure 4
Typical Levels of Groundborne Vibration

3. EXISTING NOISE ENVIRONMENT

EXISTING LAND USES AND SENSITIVE RECEPTORS

The project site is bordered by Clinton Keith Road to the north; Jana Lane to the east; a self-storage facility to the south; and a self-storage facility and vacant land to the west.

The State of California defines sensitive receptors as those land uses that require serenity or are otherwise adversely affected by noise events or conditions. Schools, libraries, churches, hospitals, single and multiple-family residential, including transient lodging, motels and hotel uses make up the majority of these areas. Sensitive land uses that may be affected by project noise include the existing single-family detached residential dwelling units located approximately 50 feet to the east (along Jana Lane), 115 feet to the northwest (along Benetta Court), 188 feet to the northeast (along Mauri Court), 665 feet to the southeast (along Jana Lane), 679 feet to the east (along Crimson Lasso Drive), and 680 feet to the east (along Horseshoe Court) of the project site.

AMBIENT NOISE MEASUREMENTS

An American National Standards Institute (ANSI Section S1.4 2014 Class 1) Larson Davis model LxT sound level meter was used to document existing ambient noise levels. In order to document existing ambient noise levels in the project area, five (5) 15-minute daytime noise measurements were taken between 2:10 PM and 4:51 PM on May 4, 2022. In addition, one (1) long-term 24-hour noise measurement was also taken from May 4, 2022, to May 5, 2022. Field worksheets and noise measurement output data are included in Appendix C.

As shown in Figure 5, the noise meter was placed at the following locations:

- STNM1: represents the existing noise environment of the single-family residence located to the southeast of the project site boundary on the eastern side of Jana Lane (36254 Jana Lane, Wildomar). The noise meter was placed near the western property line of the single-family residential use on the eastern side of Jana Lane.

- STNM2: represents the existing noise environment of the single-family residential uses to the east of the project site along the eastern side of Jana Lane (36180 and 36120 Jana Lane, Wildomar). The noise meter was placed near the western property line of the single-family residential use at 36120 Jana Lane, Wildomar on the eastern side of Jana Lane.

- STNM3: represents the existing noise environment of the single-family residential neighborhood located to the north of the project site boundary across Clinton-Keith Road (24811 Benetta Court, Wildomar). The noise meter was placed along the northern sidewalk associated with Clinton-Keith Road just south of the residential uses.

- STNM4: represents the existing noise environment of the single-family residential neighborhood located to the northeast of the project site boundary across Clinton-Keith Road and along Mauri Court (24919 Mauri Court, Wildomar). The noise meter was placed along the northern property line of the single-family residence just south of Mauri Court.

- STNM5: represents the existing noise environment of the single-family residential neighborhood located to the east of the project site along Crimson Lasso Drive (25006 Crimson Lasso Drive, Wildomar). The noise meter was placed along the western property line of the single-family residence just north of Crimson Lasso Court.

- LTNM1: represents the existing noise environment of the project site. The noise meter was placed in the northern portion of the project site just south of Clinton-Keith Road.

Table 1 provides a summary of the short-term ambient noise data. Table 2 provides hourly interval ambient noise data from the long-term noise measurements. Measured short-term ambient noise levels ranged between 49.5 and 74.5 dBA L_{eq}. Long-term hourly noise measurement ambient noise levels ranged from 53.4 to 64.3 dBA L_{eq}. The dominant noise source in the project vicinity was vehicle traffic associated with Jana Lane, Clinton-Keith Road, Smith Ranch Road and other surrounding roadways, bird song, residential ambiance, and construction earthwork type activities.

Table 1
Short-Term Noise Measurement Summary (dBA)

Daytime Measurements[1,2]								
Site Location	Time Started	Leq	Lmax	Lmin	L(2)	L(8)	L(25)	L(50)
STNM1	2:10 PM	49.5	63.0	41.8	56.4	53.0	49.9	47.4
STNM2	2:44 PM	53.5	71.2	43.7	61.6	55.6	51.5	49.5
STNM3	3:21 PM	74.5	85.1	50.9	81.5	79.0	76.5	70.5
STNM4	3:52 PM	50.7	67.0	41.5	55.5	53.3	51.5	49.7
STNM5	4:36 PM	56.8	68.6	44.8	63.2	60.2	57.4	55.3

Notes:

(1) See Figure 5 for noise measurement locations. Each noise measurement was performed over a 15-minute duration.

(2) Noise measurements performed on May 4, 2022.

Table 2
Long-Term Noise Measurement Summary (LTNM1) (dBA)

24-Hour Ambient Noise[1,2]								
Hourly Measurements	Time Started	Leq	Lmax	Lmin	L(2)	L(8)	L(25)	L(50)
Overall Summary	7:00 PM	60.6	90.1	34.4	67.2	64.8	61.8	57.8
1	7:00 PM	64.3	79.0	43.8	69.6	68.0	66.0	62.9
2	8:00 PM	61.5	75.0	37.7	67.4	65.6	63.0	60.0
3	9:00 PM	61.5	83.2	36.8	67.2	65.0	62.4	58.7
4	10:00 PM	59.0	75.5	34.6	66.2	64.0	60.5	54.1
5	11:00 PM	56.8	70.1	36.1	64.7	62.2	57.9	49.9
6	12:00 AM	54.8	68.9	37.5	64.1	60.5	53.5	46.9
7	1:00 AM	54.2	73.0	36.3	63.6	60.2	50.9	45.3
8	2:00 AM	53.4	68.5	34.4	63.2	59.0	50.2	45.3
9	3:00 AM	56.2	70.6	37.7	64.9	61.8	55.3	49.3
10	4:00 AM	60.3	76.5	43.2	67.2	64.9	61.4	56.1
11	5:00 AM	62.3	81.0	46.9	68.0	66.2	63.8	60.2
12	6:00 AM	63.8	81.9	47.5	69.0	67.2	65.1	62.6
13	7:00 AM	62.7	73.7	45.3	67.4	66.0	64.2	62.1
14	8:00 AM	61.8	76.8	39.4	67.1	65.4	63.3	60.8
15	9:00 AM	60.5	73.0	36.4	66.4	64.4	62.1	59.0
16	10:00 AM	59.5	72.5	35.4	65.6	63.5	60.9	57.8
17	11:00 AM	58.6	72.7	34.7	64.8	62.8	60.1	56.7
18	12:00 PM	61.1	90.1	36.3	65.2	62.9	60.3	57.1
19	1:00 PM	59.3	76.9	38.0	65.4	62.5	60.3	57.6
20	2:00 PM	60.5	79.9	39.4	66.4	63.5	61.3	58.7
21	3:00 PM	60.7	77.7	40.1	65.8	64.0	62.1	59.7
22	4:00 PM	61.1	77.3	42.8	66.2	64.4	62.6	60.1
23	5:00 PM	61.3	76.2	40.9	65.9	64.5	62.8	60.7
24	6:00 PM	61.2	77.3	40.8	66.3	64.6	62.7	60.1
CNEL	66.5							

Notes:

(1) See Figure 5 for noise measurement locations. Noise measurement was performed over a 24-hour duration.

(2) Noise measurement performed from May 4, 2022 to May 5, 2022.

Legend

NM 1 Noise Measurement Location

ST NM Short-Term Noise Measurement

LT NM Long-Term Noise Measurement

Figure 5
Noise Measurement Location Map

4. REGULATORY SETTING

FEDERAL REGULATION

Federal Noise Control Act of 1972

The U.S. Environmental Protection Agency (EPA) Office of Noise Abatement and Control was originally established to coordinate federal noise control activities. After its inception, EPA's Office of Noise Abatement and Control issued the Federal Noise Control Act of 1972, establishing programs and guidelines to identify and address the effects of noise on public health, welfare, and the environment. In response, the EPA published Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety (Levels of Environmental Noise). The Levels of Environmental Noise recommended that the Ldn should not exceed 55 dBA outdoors or 45 dBA indoors to prevent significant activity interference and annoyance in noise-sensitive areas.

In addition, the Levels of Environmental Noise identified five (5) dBA as an "adequate margin of safety" for a noise level increase relative to a baseline noise exposure level of 55 dBA Ldn (i.e., there would not be a noticeable increase in adverse community reaction with an increase of five dBA or less from this baseline level). The EPA did not promote these findings as universal standards or regulatory goals with mandatory applicability to all communities, but rather as advisory exposure levels below which there would be no risk to a community from any health or welfare effect of noise.

In 1981, EPA administrators determined that subjective issues such as noise would be better addressed at lower levels of government. Consequently, in 1982 responsibilities for regulating noise control policies were transferred to State and local governments. However, noise control guidelines and regulations contained in EPA rulings in prior years remain in place by designated Federal agencies, allowing more individualized control for specific issues by designated Federal, State, and local government agencies.

STATE REGULATIONS

State of California General Plan Guidelines 2017

Though not adopted by law, the State of California General Plan Guidelines 2017, published by the California Governor's Office of Planning and Research (OPR) (OPR Guidelines), provides guidance for the compatibility of projects within areas of specific noise exposure. The OPR Guidelines identify the suitability of various types of construction relative to a range of outdoor noise levels and provide each local community some flexibility in setting local noise standards that allow for the variability in community preferences. Findings presented in the Levels of Environmental Noise Document (EPA 1974) influenced the recommendations of the OPR Guidelines, most importantly in the choice of noise exposure metrics (i.e., Ldn or CNEL) and in the upper limits for the normally acceptable outdoor exposure of noise-sensitive uses.

The OPR Guidelines include a Noise and Land Use Compatibility Matrix which identifies acceptable and unacceptable community noise exposure limits for various land use categories. Where the "normally acceptable" range is used, it is defined as the highest noise level that should be considered for the construction of the buildings which do not incorporate any special acoustical treatment or noise mitigation. The "conditionally acceptable" or "normally unacceptable" ranges include conditions calling for detailed acoustical study prior to the construction or operation of the proposed project. The City of Wildomar has adopted the County of Riverside General Plan (2003). They are currently in the process of creating an updated General Plan (Envision Wildomar 2040). The County of Riverside has adopted their own version of the State Land Use Compatibility Guidelines for land use planning and to assess potential transportation noise impacts to proposed land uses (see Table 3).

California Department of Transportation (Caltrans)

The California Department of Transportation has published one of the seminal works for the analysis of ground-borne noise and vibration relating to transportation- and construction-induced vibrations and although the project is not subject to these regulations, it serves as useful tools to evaluate vibration impacts.

As shown in Table 4, the threshold at which there is a risk to "architectural" damage to historic and some older buildings is a peak particle velocity (PPV) of 0.25, at older residential structures a PPV of 0.3, and at new residential structures a PPV of 0.5. Table 5 shows that a PPV of 0.04 is the threshold at which groundborne vibration becomes distinctly perceptible in regard to annoyance. Therefore, these guidelines recommend that a standard of 0.3 inches per second (in/sec) PPV not be exceeded for the protection of older residential structures (California Department of Transportation, 2020).

Local Regulations

County of Riverside General Plan

The City of Wildomar has adopted the County of Riverside's 2003 General Plan. The County of Riverside has adopted a modified version of the State of California Noise Land Use Compatibility Matrix (see Table 3). This Matrix establishes standards for outdoor noise levels that are acceptable, conditionally acceptable, and unacceptable for a variety of land uses. For commercial uses, the outdoor noise levels of up to 70 dBA CNEL are "normally acceptable" and levels up to 77.5 dBA CNEL are "conditionally acceptable". In addition, for industrial uses, the outdoor noise levels of up to 75 dBA CNEL are "normally acceptable" and levels up to 80 dBA CNEL are "conditionally acceptable". These standards apply to the proposed project itself. Additional County of Riverside General Plan Policies which apply to the proposed project are presented below.

Policy N 1.1: Protect noise-sensitive land uses from high levels of noise by restricting noise-producing land uses from these areas. If the noise producing land use cannot be relocated, then noise buffers such as setbacks, landscaping, or block walls shall be used.

Policy N 1.2: Guide noise-tolerant land uses into areas irrevocably committed to land uses that are noise-producing, such as transportation corridors or within the projected noise contours of any adjacent airports.

Policy N 1.3: Consider the following uses noise-sensitive and discourage these uses in areas in excess of 65 CNEL: schools, hospitals, rest homes, long term care facilities, mental care facilities, residential uses, libraries, passive recreation uses, and places of worship.

Policy N 1.5: Prevent and mitigate the adverse impacts of excessive noise exposure on the residents, employees, visitors, and noise-sensitive uses of Riverside County.

Policy N 1.6: Minimize noise spillover or encroachment from commercial and industrial land uses into adjoining residential neighborhoods or noise-sensitive uses.

Policy N 2.3: Mitigate exterior and interior noises to the levels listed in Table 6 below to the extent feasible, for stationary sources.

Policy N 4.1: Prohibit facility-related noise, received by any sensitive use, from exceeding the following worst-case noise levels:

a. 45 dBA-10-minute L_{eq} between 10:00 PM and 7:00 AM.
b. 65 dBA-10-minute L_{eq} between 7:00 AM and 10:00 PM.

Policy N 4.3: Ensure any use determined to be a potential generator of significant stationary noise impacts be properly analyzed and ensure that the recommended mitigation measures are implemented.

Policy N 4.4: Require that detailed and independent acoustical studies be conducted for any new or renovated land uses or structures determined to be potential major stationary noise sources.

Policy N 4.5: Encourage major stationary noise-generating sources throughout the County of Riverside to install additional noise buffering or reduction mechanisms within their facilities to reduce noise generation levels to the lowest extent practicable prior to the renewal of Conditional Use Permits or business licenses or prior to the approval and/or issuance of new Conditional Use Permits for said facilities.

Policy N 4.7: Evaluate noise producers for the possibility of pure tone producing noises. Mitigate any pure tones that may be emitted from a noise source.

Policy N 4.8: Require that the parking structures, terminals, and loading docks of commercial or industrial land uses be designed to minimize the potential noise impacts of vehicles on the site as well as on adjacent land uses.

Policy N 6.3: Require commercial or industrial truck delivery hours be limited when adjacent to noise-sensitive land uses unless there is no feasible alternative or there are overriding transportation benefits.

Policy N 8.3: Require development that generates increased traffic and subsequent increases in the ambient noise level adjacent to noise-sensitive land uses to provide for appropriate mitigation measures.

Policy N 8.4: Require that the loading and shipping facilities of commercial and industrial land uses, which abut residential parcels be located and designed to minimize the potential noise impacts upon residential parcels.

Policy N 8.6: Require that all future exterior noise forecasts use Level of Service C, and be based on designed road capacity or 20-year projection of development (whichever is less) for future noise forecasts.

Policy N 12.1: Minimize the impacts of construction noise on adjacent uses within acceptable practices.

Policy N 12.2: Ensure that construction activities are regulated to establish hours of operation in order to prevent and/or mitigate the generation of excessive or adverse noise impacts on surrounding areas.

Policy N 12.4: Require that all construction equipment utilizes noise reduction features (e.g., mufflers and engine shrouds) that are no less effective than those originally installed by the manufacturer.

Policy N 15.2: Consider the following land uses sensitive to vibration: hospitals, residential areas, concert halls, libraries, sensitive research operations, schools, and offices.

City of Wildomar Municipal Ordinance

Section 9.48.020 Exemptions. Sound emanating from the following sources is exempt from the provisions of Chapter 9.48 Noise Regulation of the City's Municipal Code.

H. Private construction projects located one-quarter of a mile or more from an inhabited dwelling;

I. Private construction projects located within one-quarter of a mile from an inhabited dwelling, provided that:

a. Construction does not occur between the hours of 6:00 PM and 6:00 AM during the months of June through September, and

b. Construction does not occur between the hours of 6:00 PM and 7:00 AM during the months of October through May;

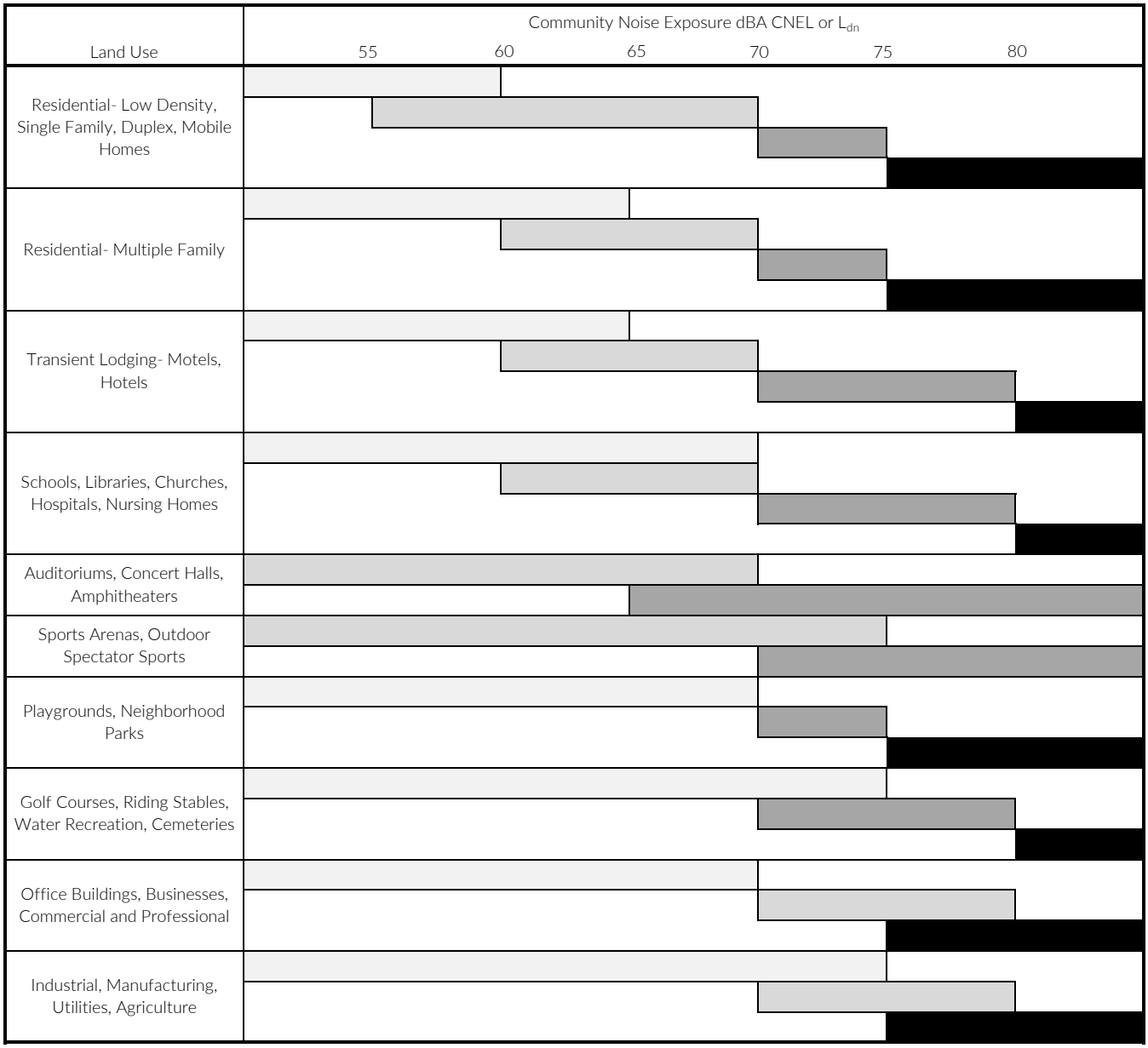
J. Property maintenance, including, but not limited to, the operation of lawnmowers, leaf blowers, etc., provided such maintenance occurs between the hours of 7:00 AM and 8:00 PM;

L. Heating and air conditioning equipment;

M. Safety, warning and alarm devices, including, but not limited to, house and car alarms, and other warning devices that are designed to protect the public health, safety, and welfare;

Section 9.48.040 General Sound Level Standards. No person shall create any sound, or allow the creation of any sound, on any property that causes the exterior sound level on any other occupied property to exceed the sound level standards set forth in Table 7.

Table 3
Land Use Compatibility for Community Noise Exposure



Normally Acceptable:	Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.
Conditionally Acceptable:	New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice. Outdoor environment will seem noisy.
Normally Unacceptable:	New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made with needed noise insulation features included in the design. Outdoor areas must be shielded.
Clearly Unacceptable:	New construction or development should generally not be undertaken. Construction cost to make the indoor environment acceptable would be prohibitive and the outdoor environment would not be usable.

Source: County of Riverside General Plan Noise Element Table N-1, 2003.

Table 4
Guideline Vibration Damage Potential Threshold Criteria

Structure Condition	Maximum PPV (in/sec)	
	Transient Sources	Continuous/Frequent Intermittent Sources
Extremely fragile historic buildings, ruins, ancient monuments	0.12	0.08
Fragile buildings	0.2	0.1
Historic and some old buildings	0.5	0.25
Older residential structures	0.5	0.3
New residential structures	1.0	0.5
Modern industrial/commercial buildings	2.0	0.5

Notes:

Source: California Department of Transportation. Transportation and Construction Vibration Guidance Manual, Chapter 7 Table 19, April 2020.

(1) Transient sources create a single isolated vibration event, such as blasting or drop balls. Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.

Table 5
Guideline Vibration Annoyance Potential Criteria

Human Response	Maximum PPV (in/sec)	
	Transient Sources	Continuous/Frequent Intermittent Sources
Barely perceptible	0.04	0.01
Distinctly perceptible	0.25	0.04
Strongly perceptible	0.9	0.10
Severe	2.0	0.4

Notes:

Source: California Department of Transportation. Transportation and Construction Vibration Guidance Manual, Chapter 7 Table 20, April 2020.

(1) Transient sources create a single isolated vibration event, such as blasting or drop balls. Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.

Table 6
County of Riverside Stationary Source Land Use Noise Standards

Land Use	Interior Standards	Exterior Standards
Residential		
10:00 PM to 7:00 AM	40 L_{eq} (10 minute)	45 L_{eq} (10 minute)
7:00 AM to 10:00 PM	55 L_{eq} (10 minute)	65 L_{eq} (10 minute)

Source: County of Riverside General Plan Noise Element, 2003.

Notes:

(1) These are only preferred standards; final decision will be made by the Riverside County Planning Department and Office of Public Health.

Table 7
City of Wildomar Sound Level Standards (dB Lmax)

General Plan Foundation Component	General Plan Land Use Designation	General Plan Land Use Designation Name	Density	Maximum Decibel Level	
				7:00 AM to 10:00 PM	10:00 PM to 7:00 AM
Community Development	EDR	Estate Density Residential	2 AC	55	45
	VLDR	Very Low Density Residential	1 AC	55	45
	LDR	Low Density Residential	1/2 AC	55	45
	MDR	Medium Density Residential	2-5	55	45
	MHDR	Medium High Density Residential	5-8	55	45
	HDR	High Density Residential	8-14	55	45
	VHDR	Very High Density Residential	14-20	55	45
	H'TDR	High Density Residential	20+	55	45
	CR	Retail Commercial		65	55
	CO	Office Commercial		65	55
	CT	Tourist Commercial		65	55
	CC	Community Center		65	55
	LI	Light Industrial		75	55
	HI	Heavy Industrial		75	75
	BP	Business Park		65	45
	PF	Public Facility		65	45
	SP	Specific Plan -Residential		55	45
		Specific Plan - Commercial		65	55
		Specific Plan - Light Industrial		76	55
		Specific Plan - Heavy Industrial		76	75
Rural Community	EDR	Estate Density Residential	2 AC	55	45
	VLDR	Very Low Density Residential	1 AC	55	45
	LDR	Low Density Residential	1/2 AC	55	45
Rural	RR	Rural Residential	5 AC	45	45
	RM	Rural Mountainous	10 AC	45	45
	RD	Rural Desert	10 AC	45	45
Agriculture	AG	Agriculture	10 AC	45	45
Open Space	C	Conservation		45	45
	CH	Conservation Habitat		45	45
	REC	Recreation		45	45
	RUR	Rural	20 AC	45	45
	W	Watershed		45	45
	MR	Mineral Resources		75	45

Source: City of Wildomar Municipal Ordinance Section 9.48.040.

5. ANALYTICAL METHODOLOGY AND MODEL PARAMETERS

This section discusses the analysis methodologies used to assess noise impacts.

CONSTRUCTION NOISE MODELING

Construction noise associated with the proposed project was calculated at the sensitive receptor locations, utilizing methodology presented in the Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual (2018) together with several key construction parameters including: distance to each sensitive receiver, equipment usage, percent usage factor, and baseline parameters for the project site. Construction noise levels were calculated for each phase based on the equipment assumptions provided in the Air Quality, Global Climate Change, TAC and Energy Impact Analysis report prepared for the project (Ganddini 2022). For construction noise purposes, the distance measured from the project site to sensitive receptors was assumed to be the acoustical center of the project site to the property line of residential properties with existing residential buildings. Sound emission levels associated with typical construction equipment as well as typical usage factors provided in Table 8 were utilized for modeling purposes. Construction noise worksheets are provided in Appendix D.

FEDERAL HIGHWAY ADMINISTRATION (FHWA) TRAFFIC NOISE PREDICTION MODEL

Increases in ambient noise levels due to project generated vehicle traffic were modeled utilizing a computer program that replicates the FHWA Traffic Noise Prediction Model FHWA-RD-77-108.

The FHWA Traffic Noise Prediction Model arrives at a predicted noise level through a series of adjustments to the Reference Energy Mean Emission Level (REMEL). In California the national REMELs are substituted with the California Vehicle Noise (Calveno) Emissions Levels.[1] Adjustments are then made to the REMEL to account for: total average daily traffic volumes, roadway classification (i.e., collector, secondary, major or arterial), the roadway active width (i.e., distance between the center of the outermost travel lanes on each side of the roadway), travel speed, truck mix (i.e., percentage of automobiles, medium trucks, and heavy trucks in the traffic volume), roadway grade and site conditions (hard or soft ground surface relating to the absorption of the ground, pavement, or landscaping). Research conducted by Caltrans identifies that the use of soft site conditions is appropriate for the application of the FHWA traffic noise prediction model.[2] Therefore, surfaces adjacent to all modeled roadways were assumed to have a "soft site". Possible reductions in noise levels due to intervening topography and buildings were not accounted for in this analysis.

Existing and Existing Plus Project average daily traffic volumes were calculated from the PM peak hour intersection turning movement volumes provided in the project's traffic impact analysis (Ganddini 2022). The vehicle/truck mixes and D/E/N splits for use in acoustical studies published by the Riverside County Department of Industrial Hygiene were utilized for noise modeling. Existing Plus Project vehicle mixes were calculated by adding the proposed project trips to existing conditions. FHWA spreadsheets are included in Appendix E.

SOUNDPLAN NOISE MODEL

The SoundPLAN acoustical modeling software was utilized to model project operational worst-case stationary noise impacts from the proposed project to adjacent sensitive uses (e.g., residences). SoundPLAN is capable of evaluating stationary noise sources (e.g., parking lots, drive-thru menus, carwash equipment, vacuums, etc.)

[1] California Department of Transportation Environmental Program, Office of Environmental Engineering. Use of California Vehicle Noise Reference Energy Mean Emission Levels (Calveno REMELs) in FHWA Highway Traffic Noise Prediction. September 1995. TAN 95-03.

[2] California Department of Transportation. Traffic Noise Attenuation as a Function of Ground and Vegetation Final Report. June 1995. FHWA/CA/TL-95/23.

and much more. The SoundPLAN software utilizes algorithms (based on the inverse square law) to calculate noise level projections. The software allows the user to input specific noise sources, spectral content, sound barriers, building placement, topography, and sensitive receptor locations. In addition to the information provided below, noise modeling input and outputs assumptions are provided in Appendix F.

Peak hour and nighttime operational noise levels were modeled utilizing representative sound levels in the SoundPLAN model. Modeled noise sources include car wash equipment, vacuum equipment, fueling area, restaurant ques, and parking lot noise, and HVAC equipment. All noise sources were modeled to be in full operation for an entire hour. This is a conservative modeling effort, given that in actuality, several of the noise sources are not in operation continuously for an entire hour. For nighttime noise (10:00 PM to 7:00 AM) it was assumed that the car wash and vacuums would not be in operation, the drive-thru restaurants would generate 50% of peak hour trips and the office warehouse use would generate 33 percent of peak hour traffic.

Car Wash Equipment Noise

The car wash drying system is by far the loudest noise source associated with the car wash tunnel. A representative sound level of 93.1dBA L_{eq}[3] at the tunnel exit was utilized to model the propagation of car wash noise in the SoundPLAN noise model. A point noise source was placed 5 feet from the opening of the end of the car wash tunnel at a height of 8 feet to represent dryer noise.

Vacuum Equipment Noise

Producers are the loudest elements of a vacuum system. Producers will be located in the equipment room. A hose system will extend from these housed systems and hose ends will be available within the parking/vacuum area. A point noise source with a sound pressure level of 76.8 dB was assigned to each vacuum station to represent noise associated with general vacuuming activities. This noise level was collected at a Fast Five Car Wash in the City of Murrieta, California on November 7th, 2017. The measured 76.8 dB at 3 feet noise level is an average of three (3) five-minute noise measurements taken while cleaning the front seat area of a car[4]. This modeling methodology is very conservative as it assumes that all vacuum stations are being utilized at the same time continuously for an entire hour.

Parking Lot Noise

Parking lot noise was calculated using SoundPLAN methodology. Specifically, the traffic volume of the parking lot is entered with the number of parking moves, the hour of the day, and the number of parking bays. The model user defines whether the parking lots are for automobiles, motorcycles, or trucks, and the emission level of a parking lot is automatically adjusted accordingly. The values for the number of parking moves for each time slice is the number of parking moves per reference unit (most often per parking bay), averaged for the hour[5].

SoundPLAN utilizes parking lot noise emission levels from the 6th revised edition of the parking lot study "Recommendations for the Calculation of Sound Emissions of Parking Areas, Motorcar Centers and Bus Stations as well as of Multi-Story Car Parks and Underground Car Parks" published by the Bavarian Landesamt für Umwelt provides calculation methods to determine the emissions of parking lots.

The parking lot emission table documents the reference level (Lw, ref) from the parking lot study.

Lw, ref = Lw0 + KPA + KI + KD + KStrO + 10 log(B) [dB(A)]

[3] Representative Noise Measurement of 12 MacNeil Tech-21 15 HP Dryers at tunnel exit taken at Scrub Bot Express Wash 3965 W. Ray Rd. Chandler, AZ 85226 provided by the equipment manufacturer.

[4] 2017 Noise Measurements, Fast Five Car Wash. City of Murrieta, November 7. Kunzman Associates, Inc.

[5] SoundPLAN Essential 4.0 Manual. SoundPLAN International, LLC. May 2016.

With the following parameters:

Lw0 = Basic sound power, sound power level of one motion / per hour on P+R areas = 63 dB(A)
KPA = Surcharge parking lot type
KI = Surcharge for impulse character
KD = Surcharge for the traffic passaging and searching for parking bays in the driving lanes 2,5 * lg (f * B - 9)
f = Parking bays per unit of the reference value
B = Reference value
KStrO = Surcharge for the road surface
B = Reference value

Drive-Thru Queues

Because drive-thrus are almost always near acoustically significant roadways it is difficult to get representative noise levels of a que without capturing other noise from roadway traffic and drive-thru speakers. In order to model a drive-thru que, a sound power level roughly equivalent of to eight vehicles in a drive-thru was utilized in the SoundPLAN noise model. One vehicle pass-by at 5 miles per hour is approximately 32 dBA Leq at a distance of 50 feet[6]. A full que was assumed to be 8 automobiles which cumulatively result in a sound pressure level of 41.4 dBA Leq at 50 feet.

The sound pressure level of 41.4 dBA Leq at 50 feet is equivalent to a sound power level of 73.0 dBA assuming a half sphere directivity factor. A line noise source representative of each que was entered into the SoundPLAN noise model with a sound power level of 73 dB assigned at every meter (per meter option in SoundPLAN[7]). All of the drive-thru ques were modeled with eight vehicles during the entire peak hour.

It is understood that this mathematical calculation does not include engine noise that may be due to improperly installed mufflers, and loud music. These events are not expected to occur often enough to substantially affect the overall Leq.

Fueling Area

The fueling area was modeled as an area noise source with a sound power level of 65 dBA L_{eq} per square meter to represent normal to loud speech associated with the video/audio screens at each pump as well as general conversation that may occur. Sixty-five dB is the commonly known sound level for conversation. The SoundPLAN Library "speaking, raised voice" spectrum was utilized with a per meter spread for modeling purposes and the area source was set at a height of 5 feet. The resultant modeled noise level in the center of the fueling area is 71 dBA Leq. This is a conservative modeling effort.

Mechanical Equipment (HVAC Units) Noise

A noise reference level of 67.7 dBA at 3 feet (sound power level of 78.7 dB) was utilized to represent rooftop 5 Ton Carrier HVAC units.[8] A rooftop HVAC plan is not available at the time of this analysis so the exact location and number of units per building were estimated. A total of 20 rooftop units were modeled on the proposed rooftops. The noise source height for each HVAC unit was assumed at 1 meter above the roof top. Proposed parapets were not included in the modeling data.

[6] Calveno REMELS in Stamina 2.0 Technical Advisory, Noise TAN 95-03. September 1995.
[7] The "per meter" noise emission option results in the application of the assigned sound power level every meter along the line source, which is a conservative assumption.
[8] MD Acoustics, LLC Noise Measurement Data for RTU – Carrier 50TFQ0006 and car alarm.

Table 8 (1 of 2)
CA/T Equipment Noise Emissions and Acoustical Usage Factor Database

Equipment Description	Impact Device?	Acoustical Use Factor (%)	Spec. Lmax @ 50ft (dBA, slow)	Actual Measured Lmax @ 50ft (dBA, slow)	No. of Actual Data Samples (Count)
All Other Equipment > 5 HP	No	50	85	-N/A-	0
Auger Drill Rig	No	20	85	84	36
Backhoe	No	40	80	78	372
Bar Bender	No	20	80	-N/A-	0
Blasting	Yes	-N/A-	94	-N/A-	0
Boring Jack Power Unit	No	50	80	83	1
Chain Saw	No	20	85	84	46
Clam Shovel (dropping)	Yes	20	93	87	4
Compactor (ground)	No	20	80	83	57
Compressor (air)	No	40	80	78	18
Concrete Batch Plant	No	15	83	-N/A-	0
Concrete Mixer Truck	No	40	85	79	40
Concrete Pump Truck	No	20	82	81	30
Concrete Saw	No	20	90	90	55
Crane	No	16	85	81	405
Dozer	No	40	85	82	55
Drill Rig Truck	No	20	84	79	22
Drum Mixer	No	50	80	80	1
Dump Truck	No	40	84	76	31
Excavator	No	40	85	81	170
Flat Bed Truck	No	40	84	74	4
Forklift[2,3]	No	50	n/a	61	n/a
Front End Loader	No	40	80	79	96
Generator	No	50	82	81	19
Generator (<25KVA, VMS signs)	No	50	70	73	74
Gradall	No	40	85	83	70
Grader	No	40	85	-N/A-	0
Grapple (on backhoe)	No	40	85	87	1
Horizontal Boring Hydr. Jack	No	25	80	82	6
Hydra Break Ram	Yes	10	90	-N/A-	0
Impact Pile Driver	Yes	20	95	101	11
Jackhammer	Yes	20	85	89	133
Man Lift	No	20	85	75	23
Mounted Impact hammer (hoe ram)	Yes	20	90	90	212
Pavement Scarafier	No	20	85	90	2
Paver	No	50	85	77	9
Pickup Truck	No	50	85	77	9
Paving Equipment	No	50	85	77	9
Pneumatic Tools	No	50	85	85	90

Table 8 (2 of 2)
CA/T Equipment Noise Emissions and Acoustical Usage Factor Database

Equipment Description	Impact Device?	Acoustical Use Factor (%)	Spec. Lmax @ 50ft (dBA, slow)	Actual Measured Lmax @ 50ft (dBA, slow)	No. of Actual Data Samples (Count)
Pumps	No	50	77	81	17
Refrigerator Unit	No	100	82	73	3
Rivit Buster/chipping gun	Yes	20	85	79	19
Rock Drill	No	20	85	81	3
Roller	No	20	85	80	16
Sand Blasting (Single Nozzle)	No	20	85	96	9
Scraper	No	40	85	84	12
Shears (on backhoe)	No	40	85	96	5
Slurry Plant	No	100	78	78	1
Slurry Trenching Machine	No	50	82	80	75
Soil Mix Drill Rig	No	50	80	-N/A-	0
Tractor	No	40	84	-N/A-	0
Vacuum Excavator (Vac-truck)	No	40	85	85	149
Vacuum Street Sweeper	No	10	80	82	19
Ventilation Fan	No	100	85	79	13
Vibrating Hopper	No	50	85	87	1
Vibratory Concrete Mixer	No	20	80	80	1
Vibratory Pile Driver	No	20	95	101	44
Warning Horn	No	5	85	83	12
Welder/Torch	No	40	73	74	5

Notes:

(1) Source: FHWA Roadway Construction Noise Model User's Guide January 2006.

(2) Warehouse & Forklift Noise Exposure - NoiseTesting.info Carl Stautins, November 4, 2014 http://www.noisetesting.info/blog/carl-strautins/page-3/

(3) Data provided Leq as measured at the operator. Sound Level at 50 feet is calculated using Inverse Square Law.

6. IMPACT ANALYSIS

This impact discussion analyzes the potential for noise and/or groundborne vibration impacts to cause the exposure of a person to, or generation of, noise levels in excess of established City of Wildomar standards related to: construction and transportation noise related impacts to, or from, the proposed project.

IMPACTS RELATED TO CONSTRUCTION NOISE

Construction activities will occur in phases including site preparation, grading, building construction, paving, and architectural coating. Assumptions for the phasing, duration, and required equipment for the construction of the proposed project were obtained from the project applicant. Construction activities are anticipated to begin no sooner than the beginning of October 2022 and be completed by early June 2023.

Construction noise will vary depending on the construction process, type of equipment involved, location of the construction site with respect to sensitive receptors, the schedule proposed to carry out each task (e.g., hours and days of the week) and the duration of the construction work. The existing surrounding single-family residential uses to the north, east, and southwest of the project site may be affected by short-term noise impacts associated with construction noise.

Construction noise associated with the proposed project was calculated utilizing methodology presented in the Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual (2018) together with several key construction parameters including: distance to each sensitive receiver, equipment usage, percent usage factor, and baseline parameters for the project site. Distances to receptors were based on the acoustical center of the proposed construction activity. Construction noise levels were calculated for each phase. Anticipated noise levels during each construction phase are presented in Table 9. Worksheets for each phase are included as Appendix D.

Modeled unmitigated construction noise levels reached 67.9 dBA L_{eq} at the nearest residential property line along Mauri Court to the northwest, 68.4 dBA L_{eq} at the nearest residential property line along Benetta Court to the northeast, 62.6 dBA L_{eq} at the nearest residential property line along Crimson Lasso Drive to the east, 62.8 dBA L_{eq} at the nearest residential property line along Horseshoe Court to the east, 72.8 dBA L_{eq} at the nearest residential property line to the east of the project site at 36120 Jana Lane, and 61.5 dBA L_{eq} at the nearest residential property line to the southeast of the project site at 36254 Jana Lane. Table 9 also includes a comparison of existing noise levels and project construction noise levels. STNM3 was used to represent the property lines of the residential receptors to northwest, STNM4 was used to represent the property lines of the residential receptors to the northeast, STNM5 was used to represent the property lines of the residential receptors to the east along Crimson Lasso Drive and Horseshoe Court, STNM2 was used to represent the property lines of the residential receptor to the east along Jana Lane, and STNM1 was used to represent the property lines of the residential receptor to the southeast along Jana Lane of the project site.

The expected duration of each phase and the loudest sound level at the nearest sensitive receptor (the single-family residence located to the east of the project site at 36120 Jana Lane) is presented below:

Phase	**Number of Days**	**Maximum L_{eq}**
Site Preparation	5	67.6
Grading	8	72.8
Building Construction	156	73.7
Paving	18	69.9
Architectural Coating	18	59.5

However, project construction will not occur outside of the hours outlined as “exempt” in the City of Wildomar Municipal Code Section 9.48.020 (as follows) and therefore, will not result in or generate 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.

The City's Municipal Code Section 9.48.020 exempts construction noise from the City's noise standards as long as either the construction noise source it is located one-quarter of a mile or more from an inhabited dwelling or if within on-quarter mile of an inhabited dwelling it does not take place between the hours of 6:00 PM and 6:00 AM during the months of June through September and 6:00 PM and 7:00 AM during the months of October through May.

Project construction activities are expected to comply with the above allowed hours. Impacts would be less than significant, and no mitigation is required.

In addition to adherence to the City of Wildomar Municipal Code which limits the construction hours of operation, the following best management practices will be implemented to further reduce construction noise emanating from the proposed project:

Construction Noise - Best Management Practices

1. All construction equipment, fixed or mobile, will be equipped with properly operating and maintained mufflers, consistent with manufacturer standards.

2. All stationary construction equipment will be placed so that emitted noise is directed away from the noise sensitive receptors nearest the project site.

3. As applicable, shut off all equipment when not in use.

4. Equipment staging shall be located in areas that create the greatest distance between construction-related noise/vibration sources and sensitive receptors surrounding the project site.

5. Jackhammers, pneumatic equipment, and all other portable stationary noise sources will be directed away from existing residences east of the project site. Either one-inch plywood or sound blankets can be utilized for this purpose. They should reach up from the ground and block the line of sight between equipment and the nearest off-site residences. The shielding should be without holes and cracks.

6. No amplified music and/or voice will be allowed on the project site.

7. Haul truck deliveries will not occur outside of the hours presented as exempt for construction per City's Municipal Code Section 9.48.020.

Off-Site Construction

Construction truck trips would occur throughout the construction period. As sated previously under Section 2 Noise and Vibration Fundamentals, it is widely accepted that the average healthy ear can barely perceive changes of 3 dBA. According to the FHWA, the traffic volumes need to be doubled in order to increase noise levels by 3 dBA CNEL. The estimated existing average daily trips along Clinton Keith Road in the vicinity of the project site range between 18,492 and 36,108 average daily vehicle trips and the existing average daily vehicle trips along Jana Lane are 240 average daily vehicle trips (see Table 10).[9] As shown in the CalEEMod output files provided in the Air Quality, Global Climate Change, and Energy Impact Analysis prepared for the proposed project (Ganddini Group, 2022) the greatest number of construction-related vehicle trips per day would be during building construction at up to 109 vehicle trips per day (78 for worker trips and 31 for vendor trips). Given the project site's proximity to the 15 Freeway, it is anticipated that vendor and/or haul truck

[9] Existing average daily traffic volumes were calculated from the PM peak hour intersection turning movement volumes provided in the project's traffic impact analysis (Ganddini Group, Inc., July 20, 2022).

traffic would take the most direct route to the appropriate freeway ramps. Therefore, the addition of project vendor/haul trucks and worker vehicles per day along off-site roadway segments would not be anticipated to result in a doubling of traffic volumes. Off-site project generated construction vehicle trips would result in a negligible noise level increase and would not result in a substantial increase in ambient noise levels. Impacts would be less than significant. No mitigation measures are required.

NOISE IMPACTS TO OFF-SITE RECEPTORS DUE TO PROJECT GENERATED VEHICLE TRAFFIC

During operation, the proposed project is expected to generate approximately 5,667 average daily trips with 270 trips during the AM peak-hour and 264 trips during the PM peak-hour. A project generated traffic noise level was modeled utilizing the FHWA Traffic Noise Prediction Model - FHWA-RD-77-108. Traffic noise levels were calculated at the right of way from the centerline of the analyzed roadway. The modeling is theoretical and does not take into account any existing barriers, structures, and/or topographical features that may further reduce noise levels. Therefore, the levels are shown for comparative purposes only to show the difference in with and without project conditions. Roadway input parameters including average daily traffic volumes (ADTs), speeds, and vehicle distribution data is shown in Table 10. The potential off-site noise impacts caused by an increase of traffic from operation of the proposed project on the nearby roadways were calculated for the following scenarios:

Existing Year (without Project): This scenario refers to existing year traffic noise conditions and is demonstrated in Table 10.

Existing Year (With Project): This scenario refers to existing year plus project traffic noise conditions and is demonstrated in Table 10.

As shown in Table 11, modeled Existing traffic noise levels range between 49-77 dBA CNEL at the right-of-way of each modeled roadway segment; and the modeled Existing Plus Project traffic noise levels range between 53-77 dBA CNEL at the right-of-way of each modeled roadway segment.

As sated previously, it is widely accepted that the average healthy ear can barely perceive changes of 3 dBA. Therefore, for purposes of this project, increases in ambient noise along affected roadways due to project generated vehicle traffic is considered substantial if they result in an increase of at least 3 dBA CNEL and: (1) the existing noise levels already exceed the applicable land use compatibility standard for the affected sensitive receptors set forth in the Noise Element of the City's General Plan; or (2) the project increases noise levels by at least 3 dBA CNEL and raises the ambient noise level from below the applicable standard to above the applicable standard.

Project generated vehicle traffic along the segment of Jana Lane south of Clinton Keith Road is anticipated to increase the noise by up to approximately 7 dBA CNEL. The existing traffic noise level was modeled at 49 dBA CNEL and the existing plus project noise level was modeled at 57 dBA CNEL along this roadway segment. The majority of the existing land use along the portion of Jana Lane affected by the proposed project generated vehicle trips are that of commercial and/or industrial uses with the exception of one single-family residence at 36120 Jana Lane. Therefore, although the project generated vehicle trips result in an increase above 3 dBA CNEL along the segment of Jana Lane south of Clinton Keith Road, project generated vehicle traffic does not raise the ambient noise level from below the applicable standard to above the applicable standard (60 dBA CNEL for single-family residential uses, see Table 3).

Project generated vehicle traffic along all other modeled roadway segments is anticipated to increase the noise between approximately 0.06 to 1.05 dBA CNEL. Therefore, project generated increases in ambient noise levels would result in less than 3 dBA CNEL increases along these segments.

Impacts from project generated vehicle trips would be considered less than significant. No mitigation is required.

NOISE IMPACTS DUE TO ON-SITE PROJECT OPERATION

As discussed previously, the City of Wildomar has adopted the County of Riverside General Plan. The General Plan Noise Element sets forth stationary noise source property line standards for impacts to residential land uses. The standards are 65 dBA L_{eq}(10 minute) between the hours of 7:00 AM and 10:00 PM; and 45 dBA L_{eq} (10 minute) between the hours of 10:00 PM and 7:00 AM. However, the City of Wildomar has also established stationary noise source standards in section 9.48.040 of the Municipal Code. These standards are established by General Plan land use designation.

The SoundPLAN noise model was utilized to estimate two operational scenarios, peak hour operation and nighttime operation in order to determine if it is likely to exceed the City's applicable noise standards. A description of each noise source and model parameters are discussed in Section 5 of this report. As shown in Figures 6 and 7, peak hour project operational noise levels, which are expected to occur between 7:00 AM and 10:00 PM will range between 39 and 65 dBA L_{eq} at the nearest receptors; and nighttime noise levels at the nearest sensitive receptors will range between 35 and 60 dBA L_{eq} (see Figures 8 and 9). As shown below, project operational noise would not exceed daytime or nighttime noise standards. Impacts would be less than significant. No mitigation is required.

Project Operational Noise

Direction From Project Site	Land Use Designation	Applicable Standards (day/night) (dBA, L_{eq})	Modeled Noise Level (day/night) (dBA, L_{eq})	Exceeds Standards? (day/night)
North	Medium Density Residential	55/45	50/47	No
South	Medium High Density Residential	55/45	40/35	No
East	Business Park	65/45	64/52	No
West	Business Park	65/45	65/60	No

GROUNDBORNE VIBRATION IMPACTS

There are several types of construction equipment that can cause vibration levels high enough to annoy persons in the vicinity and/or result in architectural or structural damage to nearby structures and improvements. For example, as shown in Table 12, a vibratory roller could generate up to 0.21 PPV at a distance of 25 feet; and operation of a large bulldozer could generate up to 0.089 PPV at a distance of 25 feet (two of the most vibratory pieces of construction equipment). Groundborne vibration at sensitive receptors associated with this equipment would drop off as the equipment moves away. For example, as the vibratory roller moves further than 100 feet from the sensitive receptors, the vibration associated with it would drop below 0.0026 PPV. It should be noted that these vibration levels are reference levels and may vary slightly depending upon soil type and specific usage of each piece of equipment.

Architectural Damage

Vibration generated by construction activity generally has the potential to damage structures. This damage could be structural damage, such as cracking of floor slabs, foundations, columns, beams, or wells, or cosmetic architectural damage, such as cracked plaster, stucco, or tile. (California Department of Transportation, 2020)

Table 3 identifies a PPV level of 0.3 in/sec as the threshold at which there is a risk to "architectural" damage to older residential structures and a PPV level of 0.5 in/sec for commercial buildings. Estimated groundborne vibration levels at the nearest structures are presented in Table 12. As shown in Table 12, the threshold of 0.3 in/sec PPV for older residential structures will not be exceeded at nearby residential uses; however, the commercial threshold of 0.5 in/sec PPV has the potential to be exceeded at the commercial structures located to the south and west of the project site. In summary, if a vibratory roller is used within 15 feet of an existing commercial structure or if a large bulldozer is used within 8 feet of an existing structure there will be some potential for this equipment to result in architectural damage and significant impacts. Best management practices prohibiting the use of a vibratory roller within 15 feet or a large bulldozer within 8 feet of existing commercial structures to the south and west of the project site will reduce potential impacts. Vibration worksheets are provided in Appendix G.

With incorporation of best management practices, potential impacts related to architectural damage would be reduced to less than significant.

Annoyance to Persons

The primary effect of perceptible vibration is often a concern. However, secondary effects, such as the rattling of a china cabinet, can also occur, even when vibration levels are well below perception. Any effect (primary perceptible vibration, secondary effects, or a combination of the two) can lead to annoyance. The degree to which a person is annoyed depends on the activity in which they are participating at the time of the disturbance. For example, someone sleeping, or reading will be more sensitive than someone who is running on a treadmill. Reoccurring primary and secondary vibration effects often lead people to believe that the vibration is damaging their home, although vibration levels are well below minimum thresholds for damage potential (California Department of Transportation, 2020).

As shown in Table 4, groundborne vibration becomes distinctly perceptible to sensitive receptors at a level of 0.04 in/sec PPV and severely perceptible at a level of 0.1 in/sec PPV. Operation of a vibratory roller may result in groundborne vibration levels of up to 0.1 at a distance of 41 feet and a large bulldozer at a distance of 23 feet. Due to distance to the nearest sensitive receptors, vibration related annoyance would not occur. Furthermore, annoyance will be short-term and will occur only during site grading and preparation which will be limited to daytime hours. Impacts are less than significant. Vibration worksheets are provided in Appendix G.

Table 9
Construction Noise Levels (dBA L_{eq})

Phase	Receptor Location	Existing Ambient Noise Levels (dBA Leq)[1]	Unmitigated Noise Levels (dBA Leq)[2]
Site Preparation	Single-family Residential to Northwest (24907 Mauri Ct)	74.5	62.7
	Single-family Residential to Northeast (24811 Benetta Ct)	50.7	63.2
	Single-family Residential to East (25006 Crimson lasso Drive)	56.8	57.4
	Single-family Residential to East (36035 Horseshoe Court)	56.8	57.6
	Single-family Residential to East (36120 Jana Lane)	53.5	67.6
	Single-family Residential to Southeast (36254 Jana Lane)	49.5	56.3
Grading	Single-family Residential to Northwest (24907 Mauri Ct)	74.5	67.9
	Single-family Residential to Northeast (24811 Benetta Ct)	50.7	68.4
	Single-family Residential to East (25006 Crimson lasso Drive)	56.8	62.6
	Single-family Residential to East (36035 Horseshoe Court)	56.8	62.8
	Single-family Residential to East (36120 Jana Lane)	53.5	72.8
	Single-family Residential to Southeast (36254 Jana Lane)	49.5	61.5
Building Construction	Single-family Residential to Northwest (24907 Mauri Ct)	74.5	67.8
	Single-family Residential to Northeast (24811 Benetta Ct)	50.7	68.3
	Single-family Residential to East (25006 Crimson lasso Drive)	56.8	62.5
	Single-family Residential to East (36035 Horseshoe Court)	56.8	62.7
	Single-family Residential to East (36120 Jana Lane)	53.5	72.7
	Single-family Residential to Southeast (36254 Jana Lane)	49.5	61.3
Paving	Single-family Residential to Northwest (24907 Mauri Ct)	74.5	65.1
	Single-family Residential to Northeast (24811 Benetta Ct)	50.7	65.5
	Single-family Residential to East (25006 Crimson lasso Drive)	56.8	59.7
	Single-family Residential to East (36035 Horseshoe Court)	56.8	60.0
	Single-family Residential to East (36120 Jana Lane)	53.5	69.9
	Single-family Residential to Southeast (36254 Jana Lane)	49.5	58.6
Architectural Coating	Single-family Residential to Northwest (24907 Mauri Ct)	74.5	54.6
	Single-family Residential to Northeast (24811 Benetta Ct)	50.7	55.1
	Single-family Residential to East (25006 Crimson lasso Drive)	56.8	49.3
	Single-family Residential to East (36035 Horseshoe Court)	56.8	49.5
	Single-family Residential to East (36120 Jana Lane)	53.5	59.5
	Single-family Residential to Southeast (36254 Jana Lane)	49.5	48.1

Notes:

(1) See Table 1 for measured ambient noise. STNM3 was used for residential receptors to northwest, STNM4 was used for residential receptors to the northeast, STNM5 was used for residential receptors along Crimson Lasso Drive and Horseshoe Court to the east, STNM2 was used for the residential receptor along Jana Lane to the east, and STNM1 was used for the residential receptor along Jana Lane to the southeast of the project site.

(2) Construction noise worksheets are provided in Appendix D.

Table 10
Project Average Daily Traffic Volumes and Roadway Parameters

Roadway	Segment	Average Daily Traffic Volume[1]		Posted Travel Speeds (MPH)	Site Conditions
		Existing	Existing Plus Project		
Clinton Keith Road	West of I-15 Southbound Ramp	36,108	36,588	35	Soft
	I-15 Southbound Ramp to I-15 Northbound Ramp	34,848	35,652	35	Soft
	I-15 Northbound Ramp to Wildomar Trail	35,112	36,084	35	Soft
	Wildomar Trail to Inland Valley Drive	28,236	29,376	35	Soft
	Inland Valley Drive to Salida Del Sol	21,156	22,452	45	Soft
	Salida Del Sol to Elizabeth Lane	21,276	22,704	45	Soft
	East of Elizabeth Lane	20,280	21,804	45	Soft
	West of Jana Lane	20,196	23,064	45	Soft
	East of Jana Lane	20,100	23,952	45	Soft
	West of Nutmeg Street	18,492	19,284	45	Soft
	East of Nutmeg Street	25,668	26,148	45	Soft
Wildomar Trail	North of Clinton Keith Road	6,036	6,132	40	Soft
	South of Clinton Keith Road	4,032	4,104	40	Soft
Inland Valley Drive	South of Clinton Keith Road	9,564	9,720	45	Soft
Salida Del Sol	North of Clinton Keith Road	480	612	25	Soft
Elizabeth Lane	North of Clinton Keith Road	1,176	1,272	25	Soft
Jana Lane	South of Clinton Keith Road	240	1,285	25	Soft
Nutmeg Street	North of Clinton Keith Road	3,444	3,600	40	Soft
	South of Clinton Keith Road	9,708	9,864	45	Soft

Vehicle Distribution (Light Mix)[2]			
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)
Automobiles	75.56	13.96	10.49
Medium Trucks	48.91	2.17	48.91
Heavy Trucks	47.30	5.41	47.30

Vehicle Distribution (Heavy Mix)[2]			
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)
Automobiles	75.54	14.02	10.43
Medium Trucks	48.00	2.00	50.00
Heavy Trucks	48.00	2.00	50.00

Notes:

(1) Existing and Existing Plus Project average daily traffic volumes were calculated from the PM peak hour intersection turning movement volumes provided in the project's traffic impact analysis (Ganddini Group, Inc., July 20, 2022). However, the project generated trips along the segment of Jana Lane south of Clinton Keith Road were calculated with the assumption that half of all of the proposed fast-food restaurant trips and all of the proposed office project generated trips would travel along this segment.

(2) Existing vehicle percentages are based on the Riverside County Industrial Hygiene Letter for Traffic Noise.

Table 11
Change in Existing Noise Levels Along Roadways as a Result of Project (dBA CNEL)

Roadway	Segment	Distance from roadway centerline to right-of-way (feet)[2]	Modeled Noise Levels (dBA CNEL)[1]				
			Existing Without Project at right-of-way	Existing Plus Project at right-of-way	Change in Noise Level	Exceeds Standards[3]	Increase of 3 dB or More
Clinton Keith Road	West of I-15 Southbound Ramp	76	75.13	75.19	0.06	Yes	No
	I-15 SB Ramp to I-15 NB Ramp	76	74.98	75.08	0.10	Yes	No
	I-15 NB Ramp to Wildomar Trail	76	75.01	75.13	0.12	Yes	No
	Wildomar Trail to Inland Valley Dr	76	74.06	74.24	0.18	Yes	No
	Inland Valley Dr to Salida Del Sol	76	74.34	74.60	0.26	Yes	No
	Salida Del Sol to Elizabeth Lane	76	74.37	74.65	0.28	Yes	No
	East of Elizabeth Lane	76	74.16	74.47	0.31	Yes	No
	West of Jana Lane	76	74.14	74.72	0.58	Yes	No
	East of Jana Lane	76	74.12	74.88	0.76	Yes	No
	West of Nutmeg St	55	75.16	75.35	0.19	Yes	No
	East of Nutmeg St	55	76.59	76.67	0.08	Yes	No
Wildomar Trail	North of Clinton Keith Rd	50	65.91	65.98	0.07	Yes	No
	South of Clinton Keith Rd	50	64.16	64.24	0.08	Yes	No
Inland Valley Drive	South of Clinton Keith Rd	50	69.03	69.10	0.07	Yes	No
Salida Del Sol	North of Clinton Keith Rd	37	52.22	53.27	1.05	Yes	No
Elizabeth Lane	North of Clinton Keith Rd	37	56.11	56.45	0.34	Yes	No
Jana Lane	South of Clinton Keith Rd	37	49.21	56.50	7.29	No	Yes
Nutmeg Street	North of Clinton Keith Rd	33	65.28	65.47	0.19	Yes	No
	South of Clinton Keith Rd	44	69.65	69.72	0.07	Yes	No

Notes:

(1) Exterior noise levels calculated 5 feet above pad elevation, perpendicular to subject roadway.

(2) Distance from the roadway centerline to the roadway right-of-way (ROW) were estimated based on the Cit of Wildomar/County of Riverside General Plan Ciruclation Element roadway designations. The ROW distances for Nutmeg Street as well as the segments of Clinton Keith Road west of Nutmeg Street and east of Nutmeg Street were based on the City of Murrieta General Plan 2035 Ciruclation Element roadway designations.

(3) Per the County of Riverside normally acceptbale standard for single-family residential dwelling units (see Table 3).

Table 12
Construction Equipment Vibration Source Levels

Equipment		PPV at 25 ft, in/sec	Approximate Lv* at 25 ft
Pile Driver (impact)	upper range	1.518	112
	typical	0.644	104
Pile Driver (sonic)	upper range	0.734	105
	typical	0.170	93
clam shovel drop (slurry wall)		0.202	94
Hydromill (slurry wall)	in soil	0.008	66
	in rock	0.017	75
Vibratory Roller		0.210	94
Hoe Ram		0.089	87
Large Bulldozer		0.089	87
Caisson Drilling		0.089	87
Loaded Trucks		0.076	86
Jackhammer		0.035	79
Small Bulldozer		0.003	58

Source: Federal Transit Administration: Transit Noise and Vibration Impact Assessment Manual, 2018.
*RMS velocity in decibels, VdB re 1 micro-in/sec

Table 13
Construction Vibration Levels at the Nearest Receptors

Receptor Location	Distance from Property Line to Nearest Structure (feet)	Equipment	Vibration Level (PPV in/sec)	Threshold Exceeded?[1]	Vibration Level with Best Management Practices[2]	Threshold Exceeded With Best Management Practices?[1,2]
Residential to North	145	Vibratory Roller	0.015	No	-	-
	145	Large Bulldozer	0.006	No	-	-
Commercial to East	91	Vibratory Roller	0.030	No	-	-
	91	Large Bulldozer	0.013	No	-	-
Commercial to South	3	Vibratory Roller	5.052	Yes	0.452	No
	3	Large Bulldozer	2.141	Yes	0.492	No
Commercial to West	1	Vibratory Roller	26.250	Yes	0.452	No
	1	Large Bulldozer	11.125	Yes	0.492	No

Notes:

(1) Caltrans identifies the threshold at which there is a risk of architectural damage to nolder residential structures as a PPV of 0.3 in/sec and to modern industrial/commercial buildings as a PPV of 0.5 in/sec (see Table 4).

(2) Best management practices include prohibiting the use of vibratory rollers, or other similar vibratory equipment, within 15 feet and large bulldozers within 8 feet of commercial structures to the south and west of the project site.

Figure 6
Operational Noise Levels - Day

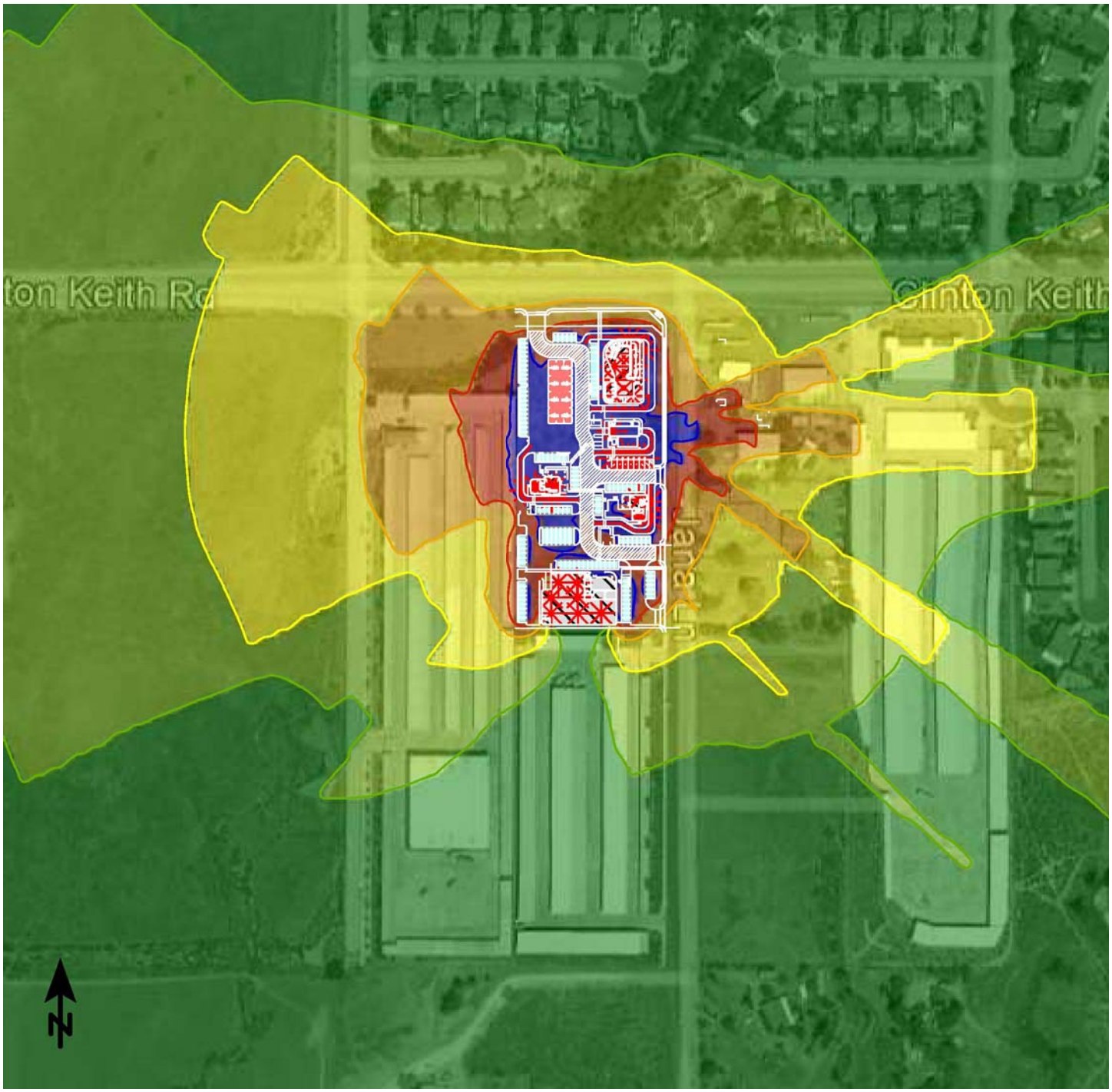


Figure 7
Operational Noise Level Contours - Day

Figure 8
Operational Noise Levels - Night

Figure 9
Operational Noise Level Contours - Night

7. CEQA THRESHOLDS & IMPACTS EVALUATION

CALIFORNIA ENVIRONMENTAL QUALITY ACT IMPACT ANALYSIS

Will the project result in the:

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?*

Less Than Significant Impact:

On-Site Construction Noise

Construction activities will occur in phases including site preparation, grading, building construction, paving, and architectural coating. Assumptions for the phasing, duration, and required equipment for the construction of the proposed project were obtained from the project applicant. Construction activities are anticipated to begin no sooner than the beginning of October 2022 and be completed by early June 2023.

Construction noise will vary depending on the construction process, type of equipment involved, location of the construction site with respect to sensitive receptors, the schedule proposed to carry out each task (e.g., hours and days of the week) and the duration of the construction work. The existing surrounding single-family residential uses to the north, east, and southwest of the project site may be affected by short-term noise impacts associated with construction noise.

Construction noise associated with the proposed project was calculated utilizing methodology presented in the Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual (2018) together with several key construction parameters including: distance to each sensitive receiver, equipment usage, percent usage factor, and baseline parameters for the project site. Distances to receptors were based on the acoustical center of the proposed construction activity. Construction noise levels were calculated for each phase. Anticipated noise levels during each construction phase are presented in Table 9. Worksheets for each phase are included as Appendix D.

Modeled unmitigated construction noise levels reached 67.9 dBA L_{eq} at the nearest residential property line along Mauri Court to the northwest, 68.4 dBA L_{eq} at the nearest residential property line along Benetta Court to the northeast, 62.6 dBA L_{eq} at the nearest residential property line along Crimson Lasso Drive to the east, 62.8 dBA L_{eq} at the nearest residential property line along Horseshoe Court to the east, 72.8 dBA L_{eq} at the nearest residential property line to the east of the project site at 36120 Jana Lane, and 61.5 dBA L_{eq} at the nearest residential property line to the southeast of the project site at 36254 Jana Lane. Table 9 also includes a comparison of existing noise levels and project construction noise levels. STNM3 was used to represent the property lines of the residential receptors to northwest, STNM4 was used to represent the property lines of the residential receptors to the northeast, STNM5 was used to represent the property lines of the residential receptors to the east along Crimson Lasso Drive and Horseshoe Court, STNM2 was used to represent the property lines of the residential receptor to the east along Jana Lane, and STNM1 was used to represent the property lines of the residential receptor to the southeast along Jana Lane of the project site.

The expected duration of each phase and the loudest sound level at the nearest sensitive receptor (the single-family residence located to the east of the project site at 36120 Jana Lane) is presented below:

Phase	Number of Days	Maximum L_{eq}
Site Preparation	5	67.6
Grading	8	72.8
Building Construction	156	73.7
Paving	18	69.9
Architectural Coating	18	59.5

However, project construction will not occur outside of the hours outlined as "exempt" in the City of Wildomar Municipal Code Section 9.48.020 (as follows) and therefore, will not result in or generate 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.

The City's Municipal Code Section 9.48.020 exempts construction noise from the City's noise standards as long as either the construction noise source it is located one-quarter of a mile or more from an inhabited dwelling or if within on-quarter mile of an inhabited dwelling it does not take place between the hours of 6:00 PM and 6:00 AM during the months of June through September and 6:00 PM and 7:00 AM during the months of October through May.

Project construction activities are expected to comply with the above allowed hours. Impacts would be less than significant, and no mitigation is required.

Project construction activities are expected to comply with the above allowed hours. Impacts would be less than significant, and no mitigation is required.

In addition to adherence to the City of Wildomar Municipal Code which limits the construction hours of operation, the following best management practices will be implemented to further reduce construction noise emanating from the proposed project:

Construction Noise - Best Management Practices

1. All construction equipment, fixed or mobile, will be equipped with properly operating and maintained mufflers, consistent with manufacturer standards.

2. All stationary construction equipment will be placed so that emitted noise is directed away from the noise sensitive receptors nearest the project site.

3. As applicable, shut off all equipment when not in use.

4. Equipment staging shall be located in areas that create the greatest distance between construction-related noise/vibration sources and sensitive receptors surrounding the project site.

5. Jackhammers, pneumatic equipment, and all other portable stationary noise sources will be directed away from existing residences east of the project site. Either one-inch plywood or sound blankets can be utilized for this purpose. They should reach up from the ground and block the line of sight between equipment and the nearest off-site residences. The shielding should be without holes and cracks.

6. No amplified music and/or voice will be allowed on the project site.

7. Haul truck deliveries will not occur outside of the hours presented as exempt for construction per City's Municipal Code Section 9.48.020.

Off-Site Construction Noise

Construction truck trips would occur throughout the construction period. As sated previously under Section 2 Noise and Vibration Fundamentals, it is widely accepted that the average healthy ear can barely perceive changes of 3 dBA. According to the FHWA, the traffic volumes need to be doubled in order to increase noise levels by 3 dBA CNEL. The estimated existing average daily trips along Clinton Keith Road in the vicinity of the project site range between 18,492 and 36,108 average daily vehicle trips and the existing average daily vehicle trips along Jana Lane are 240 average daily vehicle trips (see Table 10).[10] As shown in the CalEEMod output files provided in the Air Quality, Global Climate Change, and Energy Impact Analysis prepared for the proposed project (Ganddini Group, 2022) the greatest number of construction-related vehicle trips per day would be during building construction at up to 109 vehicle trips per day (78 for worker trips and 31 for vendor trips). Given the project site's proximity to the 15 Freeway, it is anticipated that vendor and/or haul truck traffic would take the most direct route to the appropriate freeway ramps. Therefore, the addition of project vendor/haul trucks and worker vehicles per day along off-site roadway segments would not be anticipated to result in a doubling of traffic volumes. Off-site project generated construction vehicle trips would result in a negligible noise level increase and would not result in a substantial increase in ambient noise levels. Impacts would be less than significant. No mitigation measures are required.

Project Operational Noise – Onsite Operations

Peak hour project operational noise levels, which are expected to occur between 7:00 AM and 10:00 PM will range between 39 and 65 dBA L_{eq} at the nearest receptors; and nighttime noise levels at the nearest sensitive receptors will range between 35 and 60 dBA L_{eq} (see Figures 8 and 9). As shown below, project operational noise would not exceed daytime or nighttime noise standards. Impacts would be less than significant. No mitigation is required.

Project Operational Noise

Direction From Project Site	Land Use Designation	Applicable Standards (day/night) (dBA, L_{eq})	Modeled Noise Level (day/night) (dBA, L_{eq})	Exceeds Standards? (day/night)
North	Medium Density Residential	55/45	50/47	No
South	Medium High Density Residential	55/45	39/32	No
East	Business Park	65/45	64/45	No
West	Business Park	65/45	65/59	No

Operational Impacts – Project Generated Vehicle Traffic

During operation, the proposed project is expected to generate approximately 5,667 average daily trips with 270 trips during the AM peak-hour and 264 trips during the PM peak-hour. A Project generated vehicle noise along affected roadways was modeled utilizing a computer program that replicates the FHWA Traffic Noise Prediction Model FHWA-RD-77-108. As shown in the modeling, project generated vehicle traffic along the

[10] Existing average daily traffic volumes were calculated from the PM peak hour intersection turning movement volumes provided in the project's traffic impact analysis (Ganddini Group, Inc., July 20, 2022).

segment of Jana Lane south of Clinton Keith Road is anticipated to increase the noise by up to approximately 7 dBA CNEL. The existing traffic noise level was modeled at 49 dBA CNEL and the existing plus project noise level was modeled at 57 dBA CNEL along this roadway segment. The majority of the existing land use along the portion of Jana Lane affected by the proposed project generated vehicle trips are that of commercial and/or industrial uses with the exception of one single-family residence at 36120 Jana Lane. Therefore, although the project generated vehicle trips result in an increase above 3 dBA CNEL along the segment of Jana Lane south of Clinton Keith Road, project generated vehicle traffic does not raise the ambient noise level from below the applicable standard to above the applicable standard (60 dBA CNEL for single-family residential uses, see Table 3). Project generated vehicle traffic along all other modeled roadway segments is anticipated to increase the noise between approximately 0.06 to 1.05 dBA CNEL. Therefore, project generated increases in ambient noise levels would result in less than 3 dBA CNEL increases along these segments. Impacts from project generated vehicle trips would be considered less than significant. No mitigation is required.

b) Generation of excessive groundborne vibration of groundborne noise levels?

Less Than Significant Impact:

The Caltrans Transportation and Construction Vibration Guidance Manual (2020) provides a comprehensive discussion regarding groundborne vibration and the appropriate thresholds to use to assess the potential for damage. As shown in Table 3, the threshold at which there is a risk of "architectural" damage to historic structures is a peak particle velocity (PPV) of 0.25 in/sec, and a PPV of 0.3 in/sec at older residential structures. There is a risk of architectural damage at newer residential structures and modern commercial/industrial buildings at a PPV of 0.5 in/sec. In addition, the Caltrans Noise and Vibration Manual identifies 0.1 PPV in./sec. as the level that is "strongly perceptible" (Table 4).

Estimated groundborne vibration levels at the nearest structures are presented in Table 13. As shown in Table 13, the threshold of 0.3 in/sec PPV for older residential structures will not be exceeded at nearby residential uses; however, the commercial threshold of 0.5 in/sec PPV has the potential to be exceeded at the commercial structures located to the south and west of the project site. In summary, if a vibratory roller is used within 15 feet of an existing commercial structure or if a large bulldozer is used within 8 feet of an existing structure there will be some potential for this equipment to result in architectural damage and significant impacts. Best management practices prohibiting the use of a vibratory roller within 15 feet or a large bulldozer within 8 feet of existing commercial structures to the south and west of the project site will reduce potential impacts. With incorporation of best management practices, potential impacts related to architectural damage would be reduced to less than significant. Vibration worksheets are provided in Appendix G.

As shown in Table 4, groundborne vibration becomes distinctly perceptible to sensitive receptors at a level of 0.04 in/sec PPV and severely perceptible at a level of 0.1 in/sec PPV. Operation of a vibratory roller may result in groundborne vibration levels of up to 0.1 at a distance of 41 feet and a large bulldozer at a distance of 23 feet. Due to distance to the nearest sensitive receptors, vibration related annoyance would not occur. Furthermore, annoyance will be short-term and will occur only during site grading and preparation which will be limited to daytime hours. Impacts are less than significant.

Operation of the proposed project will involve the movement of passenger vehicles and trucks. Driving surfaces associated with the project will be paved and will generally be smooth. Loaded trucks generally have a PPV of 0.076 at a distance of 25 feet (Caltrans 2020). Groundborne vibration levels associated with passenger vehicles is much lower. The movement of vehicles on the project site would not result in the generation of excessive groundborne vibration or groundborne noise. Impacts would be less than significant. No mitigation is required.

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 area to excessive noise levels?

Less Than Significant Impact:

The closest airport to the project site is the French Valley Airport located as close as approximately 5.66 miles southeast of the project site. The Riverside County Airport Land Use Compatibility Plan Policy Document (October 2007) shows that the project site is well outside the French Valley Airport's land use compatibility zones, as shown on Map FV-1, and outside the 55 dBA CNEL noise contour for the airport, as shown on Map FV-3. Therefore, the proposed project would not expose people residing or working in the area to excessive noise levels. The impact is less than significant, and no mitigation is required.

8. REFERENCES

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APPENDICES

APPENDIX A

LIST OF ACRONYMS

Term	Definition
ADT	Average Daily Traffic
ANSI	American National Standard Institute
CEQA	California Environmental Quality Act
CNEL	Community Noise Equivalent Level
D/E/N	Day / Evening / Night
dB	Decibel
dBA or dB(A)	Decibel "A-Weighted"
dBA/DD	Decibel per Double Distance
dBA L_{eq}	Average Noise Level over a Period of Time
EPA	Environmental Protection Agency
FHWA	Federal Highway Administration
L_{02},L_{08},L_{50},L_{90}	A-weighted Noise Levels at 2 percent, 8 percent, 50 percent, and 90 percent, respectively, of the time period
DNL	Day-Night Average Noise Level
$L_{eq(x)}$	Equivalent Noise Level for '"x" period of time
L_{eq}	Equivalent Noise Level
L_{max}	Maximum Level of Noise (measured using a sound level meter)
L_{min}	Minimum Level of Noise (measured using a sound level meter)
LOS C	Level of Service C
OPR	California Governor's Office of Planning and Research
PPV	Peak Particle Velocities
RCNM	Road Construction Noise Model
REMEL	Reference Energy Mean Emission Level
RMS	Root Mean Square

APPENDIX B

GLOSSARY

Term	Definition
Ambient Noise Level	The all-encompassing noise environment associated with a given environment, at a specified time, usually a composite of sound from many sources, at many directions, near and far, in which usually no particular sound is dominant.
A-Weighted Sound Level, dBA	The sound level obtained by use of A-weighting. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear.
CNEL	Community Noise Equivalent Level. CNEL is a weighted 24-hour noise level that is obtained by adding five decibels to sound levels in the evening (7:00 PM to 10:00 PM), and by adding ten decibels to sound levels at night (10:00 PM to 7:00 AM). This weighting accounts for the increased human sensitivity to noise during the evening and nighttime hours.
Decibel, dB	A logarithmic unit of noise level measurement that relates the energy of a noise source to that of a constant reference level; the number of decibels is 10 times the logarithm (to the base 10) of this ratio.
DNL, Ldn	Day Night Level. The DNL, or Ldn is a weighted 24-hour noise level that is obtained by adding ten decibels to sound levels at night (10:00 PM to 7:00 AM). This weighting accounts for the increased human sensitivity to noise during the nighttime hours.
Equivalent Continuous Noise Level, L_{eq}	A level of steady state sound that in a stated time period, and a stated location, has the same A-weighted sound energy as the time-varying sound.
Fast/Slow Meter Response	The fast and slow meter responses are different settings on a sound level meter. The fast response setting takes a measurement every 100 milliseconds, while a slow setting takes one every second.
Frequency, Hertz	In a function periodic in time, the number of times that the quantity repeats itself in one second (i.e., the number of cycles per second).
L_{02}, L_{08}, L_{50}, L_{90}	The A-weighted noise levels that are equaled or exceeded by a fluctuating sound level, 2 percent, 8 percent, 50 percent, and 90 percent of a stated time period, respectively.
L_{max}, L_{min}	Lmax is the RMS (root mean squared) maximum level of a noise source or environment measured on a sound level meter, during a designated time interval, using fast meter response. Lmin is the minimum level.
Offensive/ Offending/Intrusive Noise	The noise that intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of sound depends on its amplitude, duration, frequency, and time of occurrence, and tonal information content as well as the prevailing ambient noise level.
Root Mean Square (RMS)	A measure of the magnitude of a varying noise source quantity. The name derives from the calculation of the square root of the mean of the squares of the values. It can be calculated from either a series of lone values or a continuous varying function.

APPENDIX C

NOISE MEASUREMENT FIELD WORKSHEETS

Noise Measurement
Field Data

Project Name: Beyond Food Mart (Clinton Keith Road & Jana Lane) City of Wildomar. **Date:** May 4, 2022

Project #: 19510

Noise Measurement #: STNM1 Run Time: 15 minutes (1 x 15 minutes) **Technician:** Ian Edward Gallagher

Nearest Address or Cross Street: 36254 Jana Lane, Wildomar, CA 92595

Site Description (Type of Existing Land Use and any other notable features): Project Site: Vacant lot bordered by Clinton-Keith Road to north w/ single-family residential further north, Jana Lane to east w/ commercial & single-family residential further east, commercial and vacant land to west, and commercial to south. Noise Measurement Site: Single-family residential use to east, Jana Lane to west w/ vacant land/residential uses further west, commercial uses to northwest.

Weather: Clear skies, hazy sunshine. **Settings:** SLOW FAST

Temperature: 87 deg F **Wind:** 8mph **Humidity:** 14% **Terrain:** Flat

Start Time: 2:10 PM **End Time:** 2:25 PM **Run Time:**

Leq: 49.5 dB **Primary Noise Source:** Bird song, a little residential ambiance, earthwork at job site to SSW.

Lmax 63 dB

L2 56.4 dB **Secondary Noise Sources:** Leaf rustle from 8 mph breeze.

L8 53.0 dB

L25 49.9 dB

L50 47.4 dB

NOISE METER:	SoundTrack LXT Class 1	**CALIBRATOR:**	Larson Davis CA 250
MAKE:	Larson Davis	**MAKE:**	Larson Davis
MODEL:	LXT1	**MODEL:**	CA 250
SERIAL NUMBER:	3099	**SERIAL NUMBER:**	2723
FACTORY CALIBRATION DATE:	11/17/2021	**FACTORY CALIBRATION DATE:**	11/18/2021
FIELD CALIBRATION DATE:	5/4/2022		

Noise Measurement
Field Data

PHOTOS:

STNM1 looking WNW across Jana Lane towards Bunny Trail intersection.

STNM1 looking NE towards main entry way to residence 36254 Jana Lane, Wildomar.

Summary	
File Name on Meter	LxT_Data.027.s
File Name on PC	LxT_0003099-20220504 141059-LxT_Data.027.
Serial Number	0003099
Model	SoundTrack LxT®
Firmware Version	2.404
User	Ian Edward Gallagher
Location	STNM1 33°35'38.25"N 117°13'32.87"W
Job Description	15 minute noise measurement (1 x 15 minutes)
Note	Ganddini 19510 Beyond Food Mart , City of Wildomar

Measurement		
Description		
Start	2022-05-04 14:10:59	
Stop	2022-05-04 14:25:59	
Duration	00:15:00.0	
Run Time	00:15:00.0	
Pause	00:00:00.0	
Pre-Calibration	2022-05-04 14:10:41	
Post-Calibration	None	

Overall Settings	
RMS Weight	A Weighting
Peak Weight	Z Weighting
Detector	Slow
Preamplifier	PRMLxT1L
Microphone Correction	Off
Integration Method	Linear
OBA Range	Normal
OBA Bandwidth	1/1 and 1/3
OBA Frequency Weighting	Z Weighting
OBA Max Spectrum	Bin Max
Overload	122.7 dB

Results			
LA_{eq}	49.5		
LAE	79.0		
EA	8.907	µPa²h	
EA8	285.031	µPa²h	
EA40	1.425	mPa²h	
$LZ_{peak\ (max)}$	2022-05-04 14:17:47	105.2	dB
LAS_{max}	2022-05-04 14:11:05	63.0	dB
LAS_{min}	2022-05-04 14:24:21	41.8	dB

			Statistics		
LC_{eq}	65.8	dB	**LA2.00**	56.4	dB
LA_{eq}	49.5	dB	**LA8.00**	53.0	dB
LC_{eq} - LA_{eq}	16.3	dB	**LA25.00**	49.9	dB
LAI_{eq}	55.6	dB	**LA50.00**	47.4	dB
LA_{eq}	49.5	dB	**LA66.60**	46.0	dB
LAI_{eq} - LA_{eq}	6.2	dB	**LA90.00**	43.9	dB
Overload Count	0				

Measurement Report

Report Summary

Meter's File Name	LxT_Data.027.s	Computer's File Name	LxT_0003099-20220504 141059-LxT_Data.027.ldbin
Meter	LxT1 0003099		
Firmware	2.404		
User	Ian Edward Gallagher	Location	STNM1 33°35'38.25"N 117°13'32.87"W
Job Description	15 minute noise measurement (1 x 15 minutes)		
Note	Ganddini 19510 Beyond Food Mart , City of Wildonar		
Start Time	2022-05-04 14:10:59	Duration	0:15:00.0
End Time	2022-05-04 14:25:59	Run Time	0:15:00.0
Pause Time	0:00:00.0		

Results

Overall Metrics

LA_{eq}	49.5 dB		
LAE	79.0 dB	SEA	--- dB
EA	8.9 µPa²h	LAFTM5	57.0 dB
EA8	285.0 µPa²h		
EA40	1.4 mPa²h		
LZ_{peak}	105.2 dB	2022-05-04 14:17:47	
LAS_{max}	63.0 dB	2022-05-04 14:11:05	
LAS_{min}	41.8 dB	2022-05-04 14:24:21	
LA_{eq}	49.5 dB		
LC_{eq}	65.8 dB	LC_{eq} - LA_{eq}	16.3 dB
LAI_{eq}	55.6 dB	LAI_{eq} - LA_{eq}	6.2 dB

Exceedances

	Count	Duration
LAS > 65.0 dB	0	0:00:00.0
LAS > 85.0 dB	0	0:00:00.0
LZpeak > 135.0 dB	0	0:00:00.0
LZpeak > 137.0 dB	0	0:00:00.0
LZpeak > 140.0 dB	0	0:00:00.0

Community Noise

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

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

Any Data

	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L_{eq}	49.5 dB		65.8 dB		--- dB	
$L_{S(max)}$	63.0 dB	2022-05-04 14:11:05	--- dB		--- dB	
$L_{S(min)}$	41.8 dB	2022-05-04 14:24:21	--- dB		--- dB	
$L_{Peak(max)}$	--- dB		--- dB		105.2 dB	2022-05-04 14:17:47

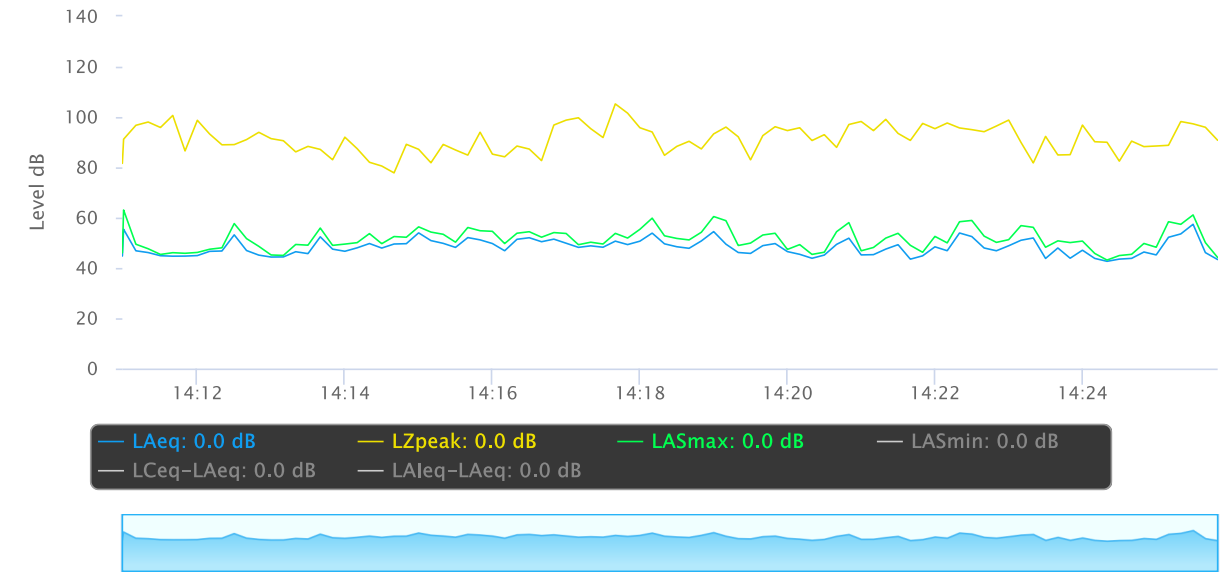
Overloads

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

Statistics

LAS 2.0	56.4 dB
LAS 8.0	53.0 dB
LAS 25.0	49.9 dB
LAS 50.0	47.4 dB
LAS 66.6	46.0 dB
LAS 90.0	43.9 dB

Time History



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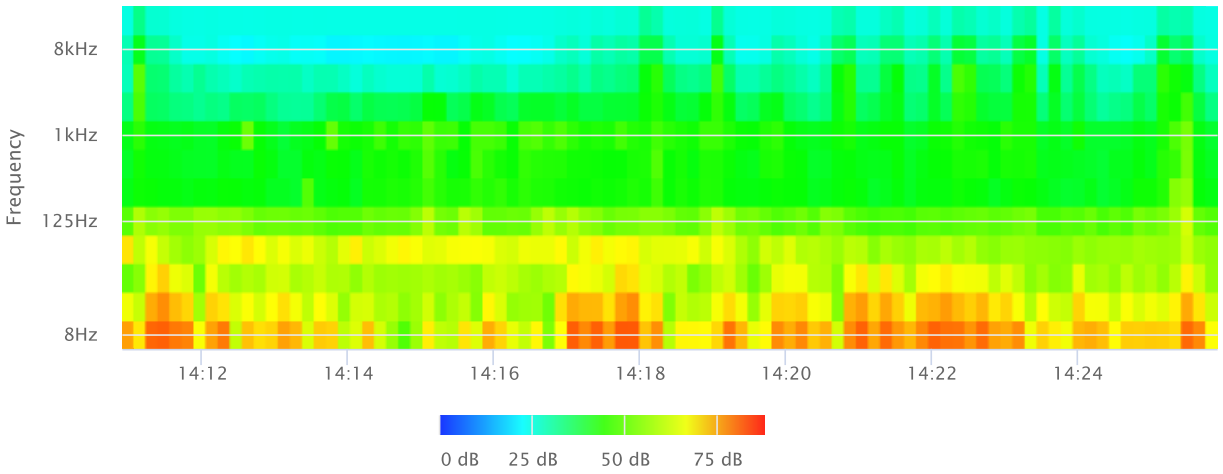
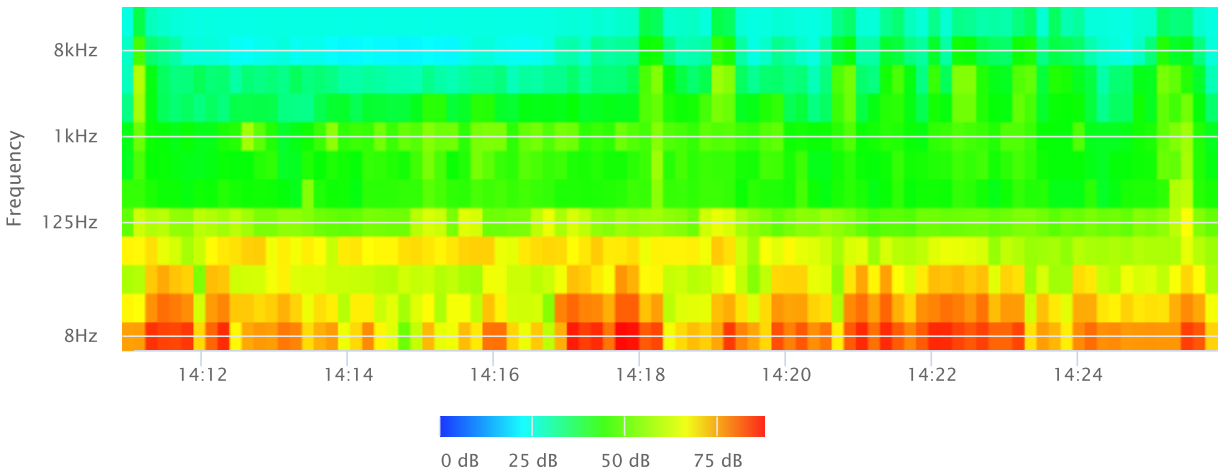
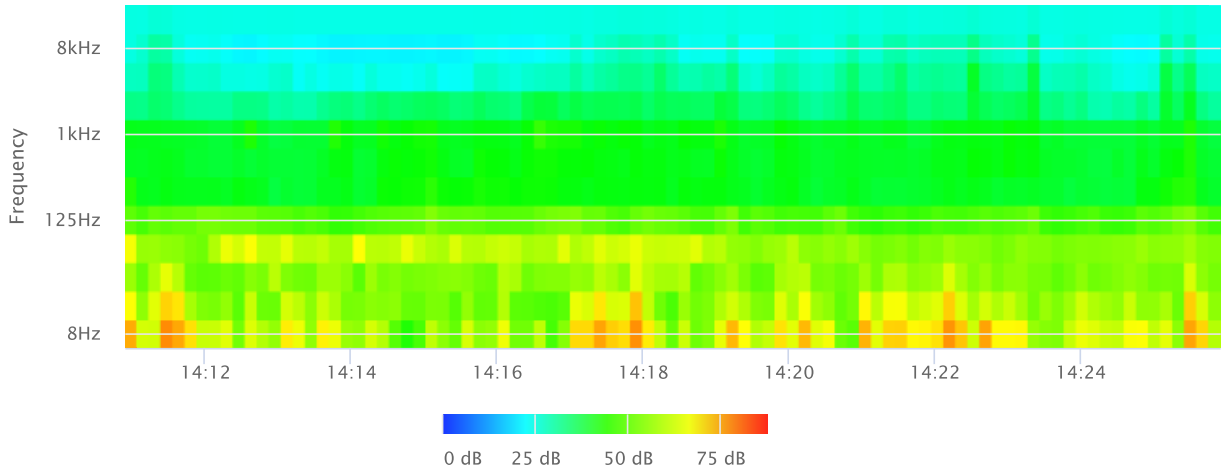


OBA 1/1 Lmax



OBA 1/1 Lmin



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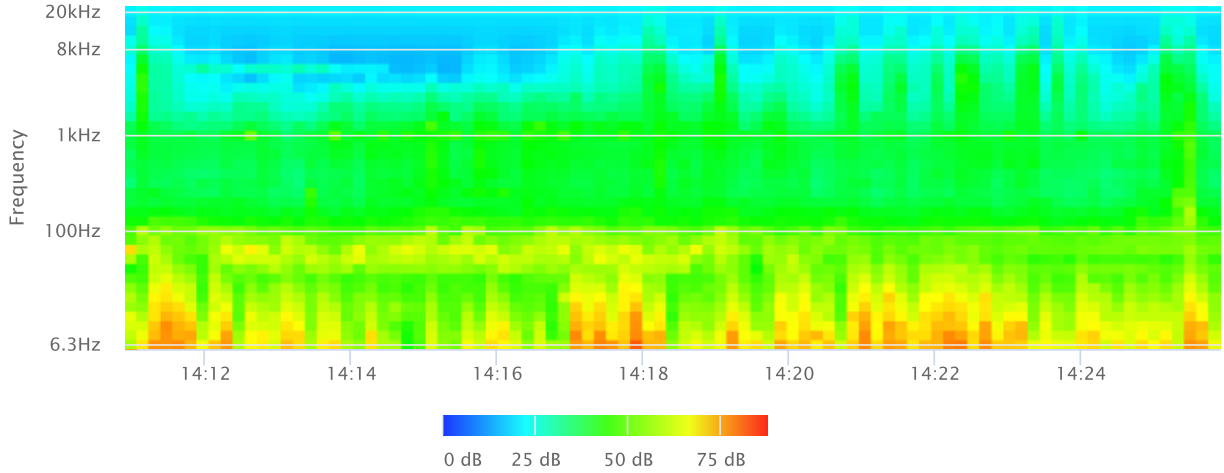
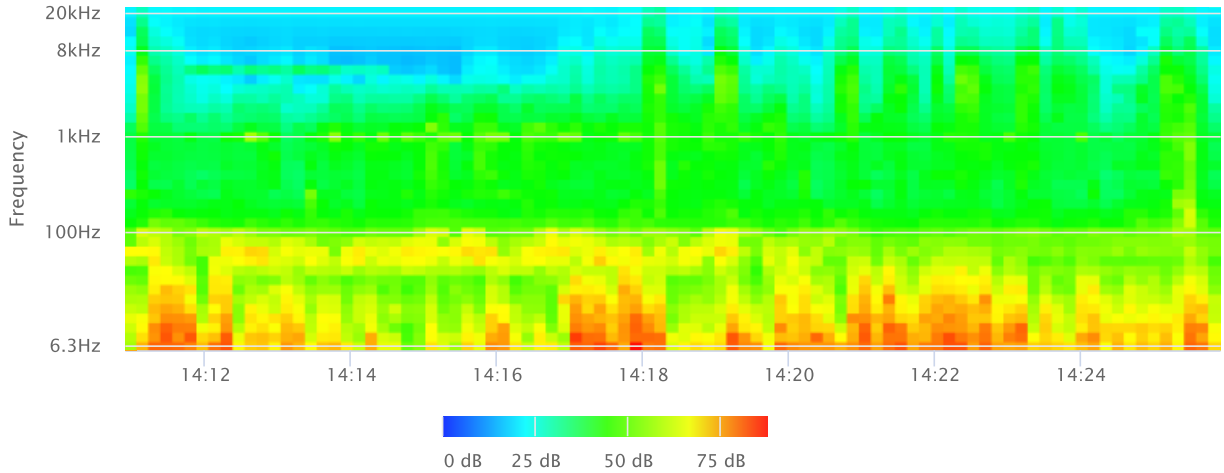


OBA 1/3 Lmax



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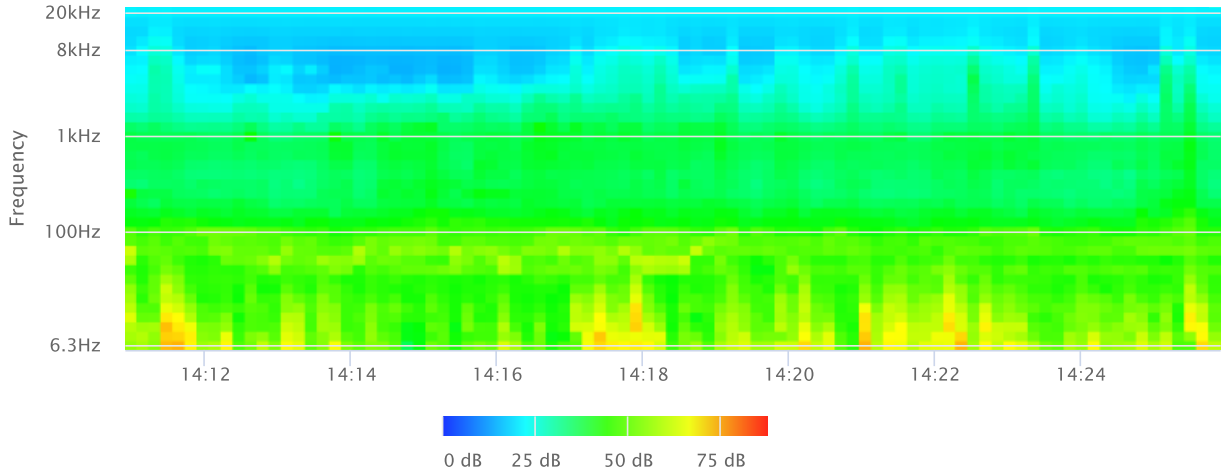

20kHz
8kHz
1kHz
100Hz
6.3Hz
Frequency
14:12
14:14
14:16
14:18
14:20
14:22
14:24
0 dB
25 dB
50 dB
75 dB

Noise Measurement
Field Data

Project Name: Beyond Food Mart (Clinton Keith Road & Jana Lane) City of Wildomar. **Date:** May 4, 2022

Project #: 19510

Noise Measurement #: STNM2 Run Time: 15 minutes (1 x 15 minutes) **Technician:** Ian Edward Gallagher

Nearest Address or Cross Street: 36120 Jana Lane, Wildomar, CA 92595

Site Description (Type of Existing Land Use and any other notable features): Project Site: Vacant lot bordered by Clinton-Keith Road to north w/ single-family residential further north, Jana Lane to east w/ commercial & single-family residential further east, commercial and vacant land to west, and commercial to south. Noise Measurement Site: Jana Lane to west w/ vacant site further west & commercial use to southwest and single-family residential uses to east and northeast.

Weather: Clear skies, hazy sunshine. **Settings:** SLOW FAST

Temperature: 87 deg F **Wind:** 8mph **Humidity:** 14% **Terrain:** Flat

Start Time: 2:44 PM **End Time:** 2:59 PM **Run Time:**

Leq: 53.5 dB

Lmax 71.2 dB

L2 61.6 dB

L8 55.6 dB

L25 51.5 dB

L50 49.5 dB

Primary Noise Source: 4 cars passing microphone traveling down Jana Lane during 15 minute measurement.

Secondary Noise Sources: Leaf rustle from 8 mph breeze. Bird song. Earth being moved at some job siteto SSW of STNM2.

NOISE METER:	SoundTrack LXT Class 1	**CALIBRATOR:**	Larson Davis CA 250
MAKE:	Larson Davis	**MAKE:**	Larson Davis
MODEL:	LXT1	**MODEL:**	CA 250
SERIAL NUMBER:	3099	**SERIAL NUMBER:**	2723
FACTORY CALIBRATION DATE:	11/17/2021	**FACTORY CALIBRATION DATE:**	11/18/2021
FIELD CALIBRATION DATE:	5/4/2022		

Noise Measurement
Field Data

PHOTOS:

STNM2 looking N up Jana Lane, past entryway to property 36180 Jana Lane. Wildomar (towards Clinton-Keith Road intersection).

STNM2 looking E through chainlink gate and fence towards property 36120 Jana Lane, Wildomar.

Summary	
File Name on Meter	LxT_Data.028.s
File Name on PC	LxT_0003099-20220504 144432-LxT_Data.028.ldbin
Serial Number	3099
Model	SoundTrack LxT®
Firmware Version	2.404
User	Ian Edward Gallagher
Location	STNM2 33°35'46.51"N 117°13'32.94"W
Job Description	15 minute noise measurement (1 x 15 minutes)
Note	Ganddini 19510 Beyond Food Mart , City of Wildomar

Measurement	
Start	2022-05-04 14:44:32
Stop	2022-05-04 14:59:32
Duration	00:15:00.0
Run Time	00:15:00.0
Pause	00:00:00.0
Pre-Calibration	2022-05-04 14:44:11
Post-Calibration	None

Overall Settings	
RMS Weight	A Weighting
Peak Weight	Z Weighting
Detector	Slow
Preamplifier	PRMLxT1L
Microphone Correction	Off
Integration Method	Linear
OBA Range	Normal
OBA Bandwidth	1/1 and 1/3
OBA Frequency Weighting	Z Weighting
OBA Max Spectrum	Bin Max
Overload	122.9 dB

Results		
LA_{eq}	53.5	
LAE	83.0	
EA	22.41448 µPa²h	
EA8	717.2634 µPa²h	
EA40	3.586317 mPa²h	
$LZ_{peak\ (max)}$	2022-05-04 14:58:56	107.1 dB
LAS_{max}	2022-05-04 14:52:42	71.2 dB
LAS_{min}	2022-05-04 14:47:01	43.7 dB

		Statistics	
LC_{eq}	67.6 dB	**LA2.00**	61.6 dB
LA_{eq}	53.5 dB	**LA8.00**	55.6 dB
LC_{eq} - LA_{eq}	14.1 dB	**LA25.00**	51.5 dB
LAI_{eq}	56.9 dB	**LA50.00**	49.5 dB
LA_{eq}	53.5 dB	**LA66.60**	48.4 dB
LAI_{eq} - LA_{eq}	3.4 dB	**LA90.00**	46.7 dB
Overload Count	0		

Measurement Report

Report Summary

Meter's File Name	LxT_Data.028.s	Computer's File Name	LxT_0003099-20220504 144432-LxT_Data.028.ldbin
Meter	LxT1 0003099		
Firmware	2.404		
User	Ian Edward Gallagher	Location	STNM2 33°35'46.51"N 117°13'32.94"W
Job Description	15 minute noise measurement (1 x 15 minutes)		
Note	Ganddini 19510 Beyond Food Mart , City of Wildonar		
Start Time	2022-05-04 14:44:32	Duration	0:15:00.0
End Time	2022-05-04 14:59:32	Run Time	0:15:00.0
Pause Time	0:00:00.0		

Results

Overall Metrics

LA_{eq}	53.5 dB		
LAE	83.0 dB	SEA	--- dB
EA	22.4 µPa²h	LAFTM5	58.8 dB
EA8	717.3 µPa²h		
EA40	3.6 mPa²h		
LZ_{peak}	107.1 dB	2022-05-04 14:58:56	
LAS_{max}	71.2 dB	2022-05-04 14:52:42	
LAS_{min}	43.7 dB	2022-05-04 14:47:01	
LA_{eq}	53.5 dB		
LC_{eq}	67.6 dB	LC_{eq} - LA_{eq}	14.1 dB
LAI_{eq}	56.9 dB	LAI_{eq} - LA_{eq}	3.4 dB

Exceedances	Count	Duration
LAS > 65.0 dB	3	0:00:12.1
LAS > 85.0 dB	0	0:00:00.0
LZpeak > 135.0 dB	0	0:00:00.0
LZpeak > 137.0 dB	0	0:00:00.0
LZpeak > 140.0 dB	0	0:00:00.0

Community Noise	LDN	LDay	LNight
	--- dB	--- dB	0.0 dB

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

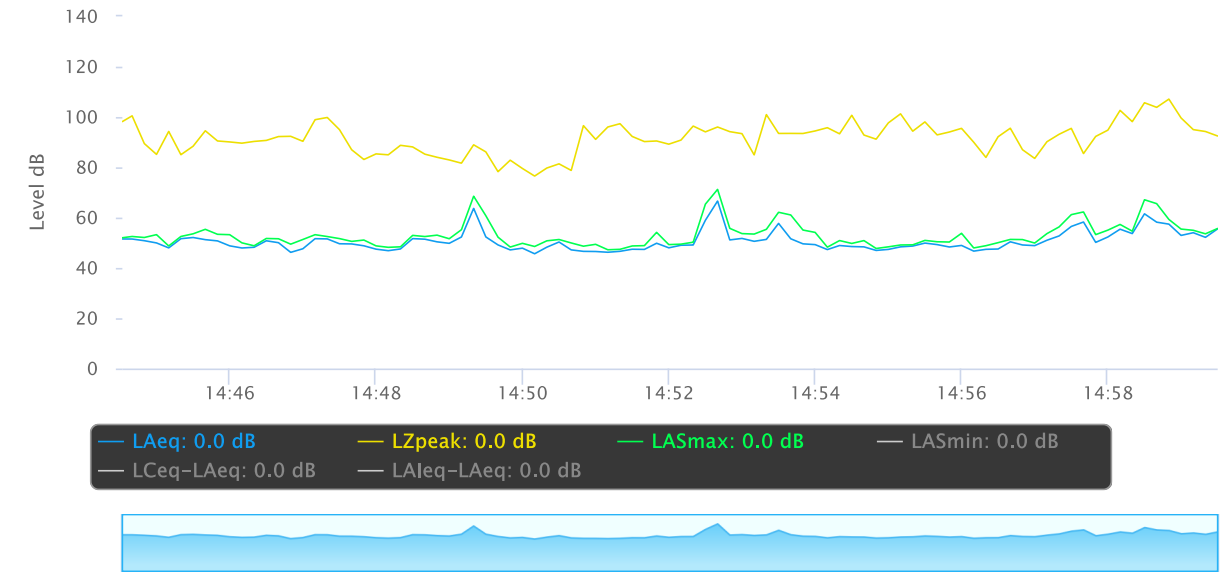
Any Data	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L_{eq}	53.5 dB		67.6 dB		--- dB	
$L_{S(max)}$	71.2 dB	2022-05-04 14:52:42	--- dB		--- dB	
$L_{S(min)}$	43.7 dB	2022-05-04 14:47:01	--- dB		--- dB	
$L_{Peak(max)}$	--- dB		--- dB		107.1 dB	2022-05-04 14:58:56

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

Statistics

LAS 2.0	61.6 dB
LAS 8.0	55.6 dB
LAS 25.0	51.5 dB
LAS 50.0	49.5 dB
LAS 66.6	48.4 dB
LAS 90.0	46.7 dB

Time History



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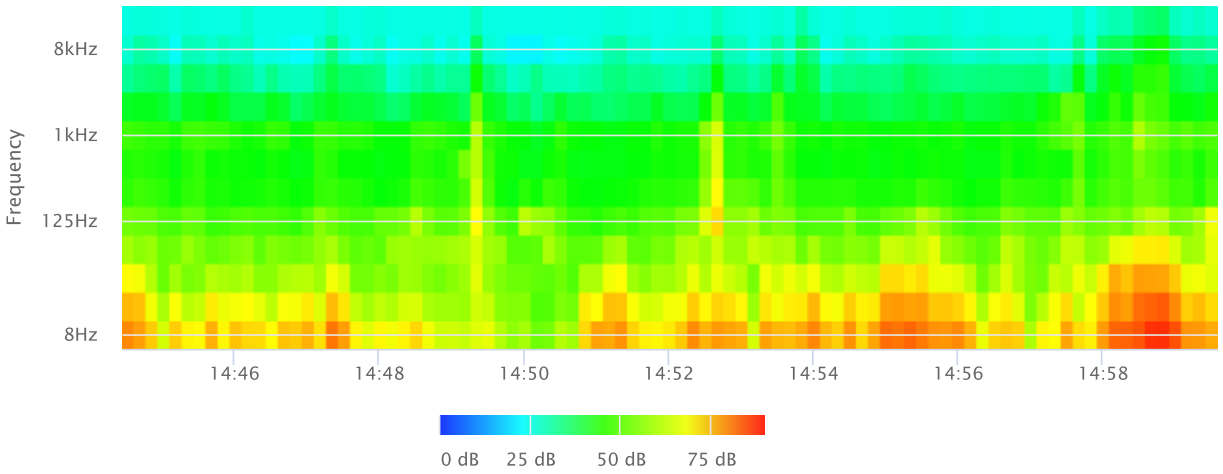

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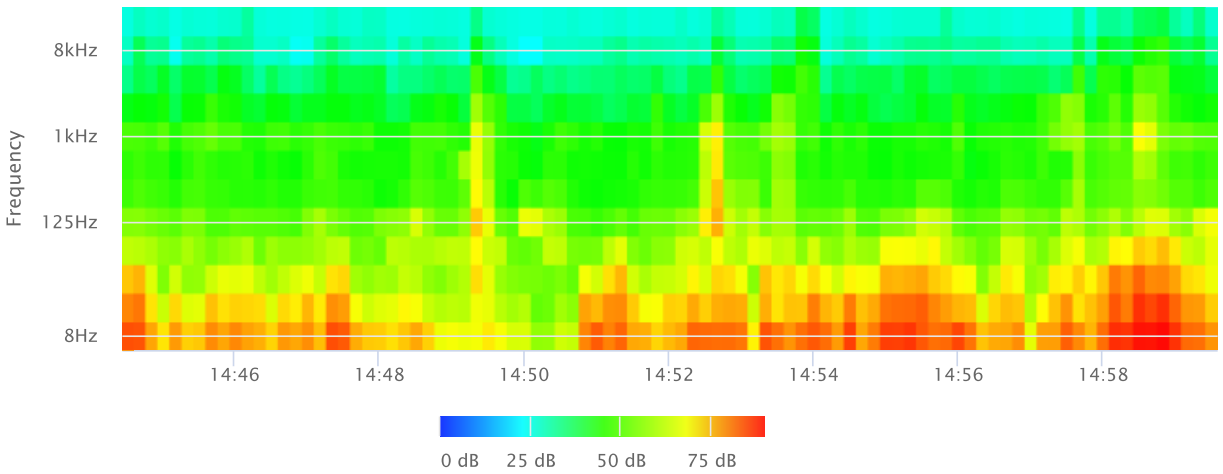
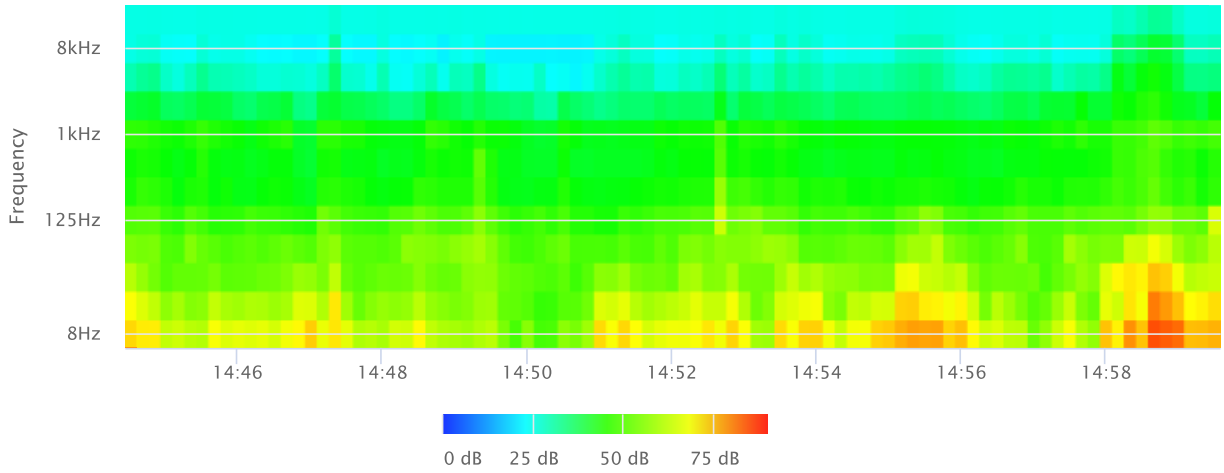
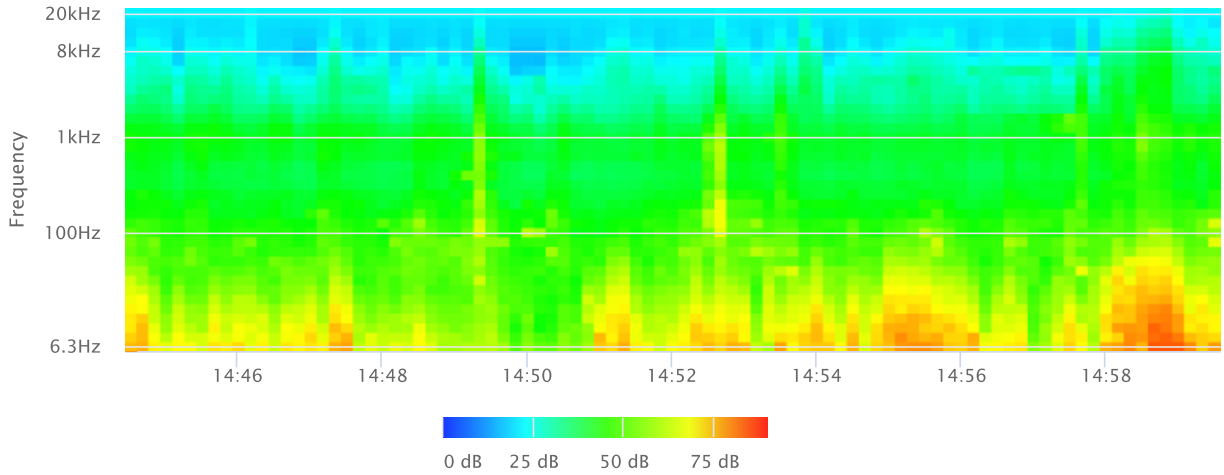


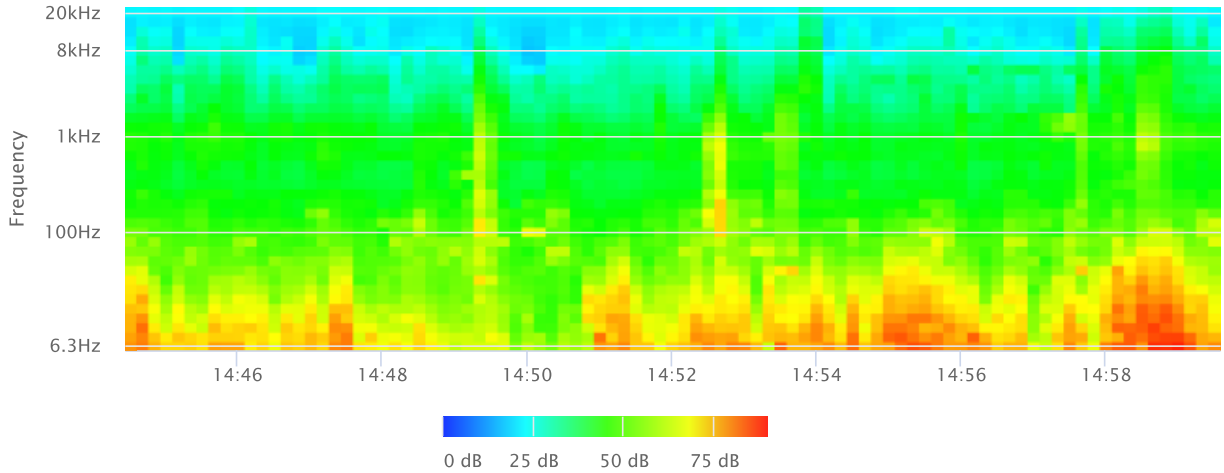
OBA 1/1 Lmin



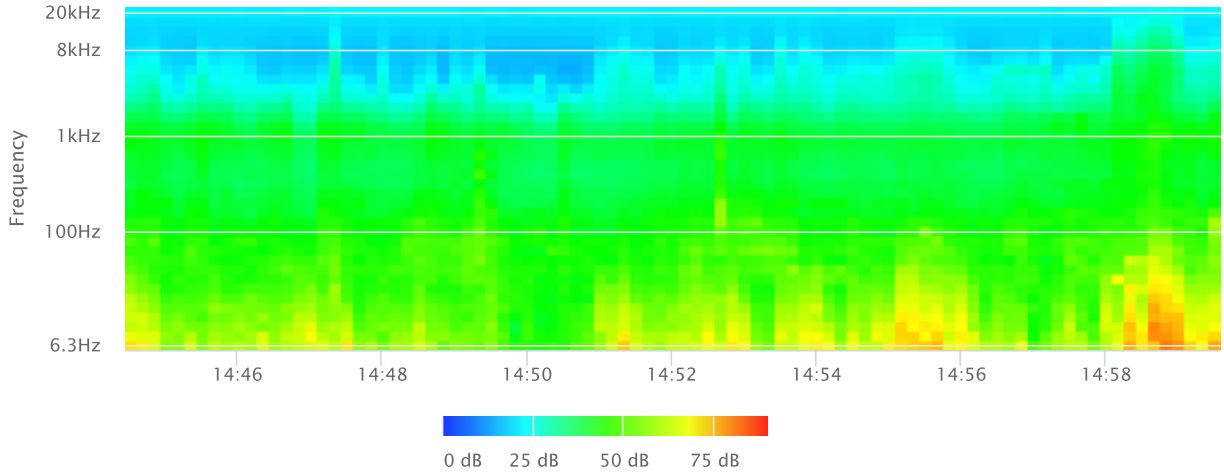
OBA 1/3 Leq



OBA 1/3 Lmax



OBA 1/3 Lmin


20kHz
8kHz
1kHz
100Hz
6.3Hz
Frequency
14:46
14:48
14:50
14:52
14:54
14:56
14:58
0 dB
25 dB
50 dB
75 dB

Noise Measurement
Field Data

Project Name: Beyond Food Mart (Clinton Keith Road & Jana Lane) City of Wildomar. **Date:** May 4, 2022

Project #: 19510

Noise Measurement #: STNM3 Run Time: 15 minutes (1 x 15 minutes) **Technician:** Ian Edward Gallagher

Nearest Address or Cross Street: 24811 Benetta Ct, Wildomar, CA 92595

Site Description (Type of Existing Land Use and any other notable features): Project Site: Vacant lot bordered by Clinton-Keith Road to north w/ single-family residential further north, Jana Lane to east w/ commercial & single-family residential further east, commercial and vacant land to west, and commercial to south. Noise Measurement Site: Jana Lane to south w/ vacant site further south & single-family residential to north (past block wall).

Weather: Clear skies, hazy sunshine. **Settings:** SLOW FAST

Temperature: 87 deg F **Wind:** 8mph **Humidity:** 14% **Terrain:** Flat

Start Time: 3:21 PM **End Time:** 3:36 PM **Run Time:**

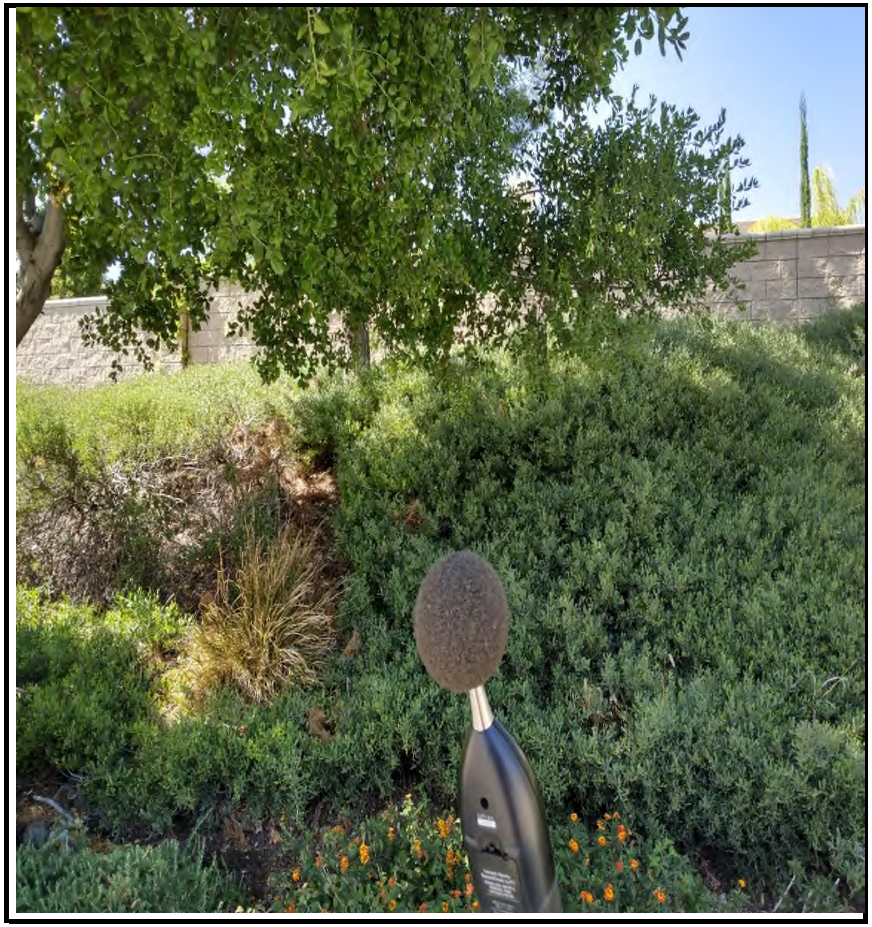
Leq:	74.5	dB	**Primary Noise Source:** 328 vehicles passing microphone traveling down Clinton-Keith Road during
Lmax	85.1	dB	15 minute tmeasurement.
L2	81.5	dB	**Secondary Noise Sources:** Leaf rustle from 8 mph breeze. Bird song. Pedestrians.
L8	79.0	dB	
L25	76.5	dB	
L50	70.5	dB	

NOISE METER:	SoundTrack LXT Class 1	**CALIBRATOR:**	Larson Davis CA 250
MAKE:	Larson Davis	**MAKE:**	Larson Davis
MODEL:	LXT1	**MODEL:**	CA 250
SERIAL NUMBER:	3099	**SERIAL NUMBER:**	2723
FACTORY CALIBRATION DATE:	11/17/2021	**FACTORY CALIBRATION DATE:**	11/18/2021
FIELD CALIBRATION DATE:	5/4/2022		

Noise Measurement
Field Data

PHOTOS:

STNM3 looking SW across Clinton-Keith Road towards Elizabeth Lane intersection.



STNM3 looking N at ~12 ft high berm toward a cinderblock ~6 ft tall wall infront of backyard to residence 24811 Benetta Ct, Wildomar.

Summary	
File Name on Meter	LxT_Data.029.s
File Name on PC	LxT_0003099-20220504 152108-LxT_Data.029.l
Serial Number	3099
Model	SoundTrack LxT®
Firmware Version	2.404
User	Ian Edward Gallagher
Location	STNM3 33°35'52.56"N 117°13'36.76"W
Job Description	15 minute noise measurement (1 x 15 minutes)
Note	Ganddini 19510 Beyond Food Mart , City of Wildomar

Measurement	
Start	2022-05-04 15:21:08
Stop	2022-05-04 15:36:08
Duration	00:15:00.0
Run Time	00:15:00.0
Pause	00:00:00.0
Pre-Calibration	2022-05-04 15:20:47
Post-Calibration	None

Overall Settings	
RMS Weight	A Weighting
Peak Weight	Z Weighting
Detector	Slow
Preamplifier	PRMLxT1L
Microphone Correction	Off
Integration Method	Linear
OBA Range	Normal
OBA Bandwidth	1/1 and 1/3
OBA Frequency Weighting	Z Weighting
OBA Max Spectrum	Bin Max
Overload	123.1 dB

Results			
LAeq	74.5		
LAE	104.1		
EA	2.831881	mPa²h	
EA8	90.62019	mPa²h	
EA40	453.1009	mPa²h	
LZpeak (max)	2022-05-04 15:30:36	108.6	dB
LASmax	2022-05-04 15:24:17	85.1	dB
LASmin	2022-05-04 15:30:55	50.9	dB

			Statistics	
LCeq	79.6	dB	**LA2.00**	81.5 dB
LAeq	74.5	dB	**LA8.00**	79.0 dB
LCeq - LAeq	5.1	dB	**LA25.00**	76.5 dB
LAIeq	76.8	dB	**LA50.00**	70.5 dB
LAeq	74.5	dB	**LA66.60**	67.7 dB
LAIeq - LAeq	2.3	dB	**LA90.00**	61.6 dB
Overload Count	0			

Measurement Report

Report Summary

Meter's File Name	LxT_Data.029.s	Computer's File Name	LxT_0003099-20220504 152108-LxT_Data.029.ldbin
Meter	LxT1 0003099		
Firmware	2.404		
User	Ian Edward Gallagher	Location	STNM3 33°35'52.56"N 117°13'36.76"W
Job Description	15 minute noise measurement (1 x 15 minutes)		
Note	Ganddini 19510 Beyond Food Mart , City of Wildonar		
Start Time	2022-05-04 15:21:08	Duration	0:15:00.0
End Time	2022-05-04 15:36:08	Run Time	0:15:00.0
Pause Time	0:00:00.0		

Results

Overall Metrics

LA_{eq}	74.5 dB		
LAE	104.1 dB	SEA	--- dB
EA	2.8 mPa²h	LAFTM5	79.5 dB
EA8	90.6 mPa²h		
EA40	453.1 mPa²h		
LZ_{peak}	108.6 dB	2022-05-04 15:30:36	
LAS_{max}	85.1 dB	2022-05-04 15:24:17	
LAS_{min}	50.9 dB	2022-05-04 15:30:55	
LA_{eq}	74.5 dB		
LC_{eq}	79.6 dB	LC_{eq} - LA_{eq}	5.1 dB
LAI_{eq}	76.8 dB	LAI_{eq} - LA_{eq}	2.3 dB

Exceedances	Count	Duration
LAS > 65.0 dB	21	0:12:44.7
LAS > 85.0 dB	1	0:00:01.1
LZpeak > 135.0 dB	0	0:00:00.0
LZpeak > 137.0 dB	0	0:00:00.0
LZpeak > 140.0 dB	0	0:00:00.0

Community Noise	LDN	LDay	LNight
	--- dB	--- dB	0.0 dB

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

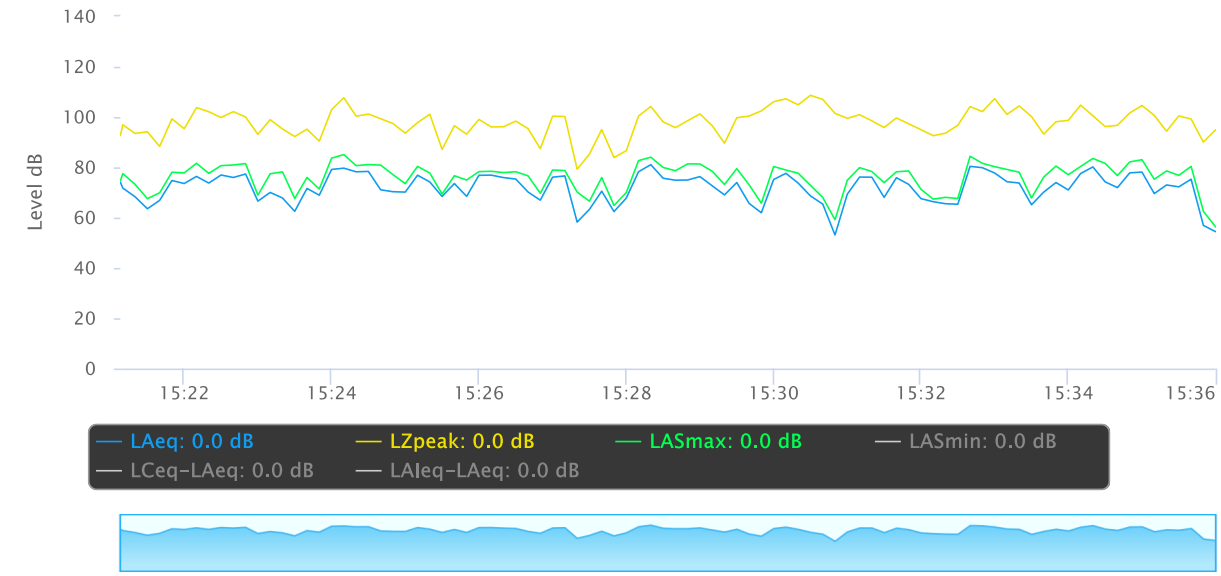
Any Data	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L_{eq}	74.5 dB		79.6 dB		--- dB	
$L_{S(max)}$	85.1 dB	2022-05-04 15:24:17	--- dB		--- dB	
$L_{S(min)}$	50.9 dB	2022-05-04 15:30:55	--- dB		--- dB	
$L_{Peak(max)}$	--- dB		--- dB		108.6 dB	2022-05-04 15:30:36

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

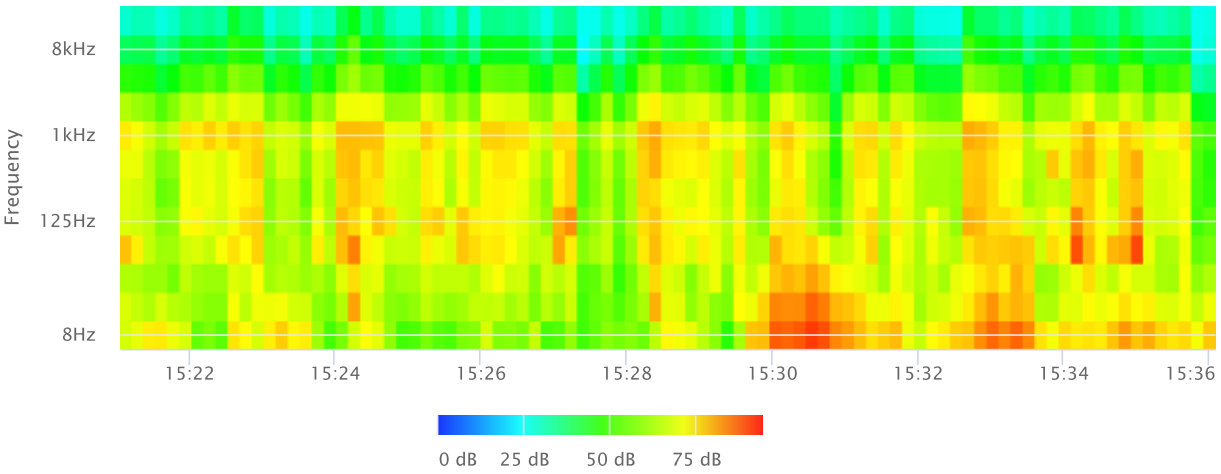
Statistics

LAS 2.0	81.5 dB
LAS 8.0	79.0 dB
LAS 25.0	76.5 dB
LAS 50.0	70.5 dB
LAS 66.6	67.7 dB
LAS 90.0	61.6 dB

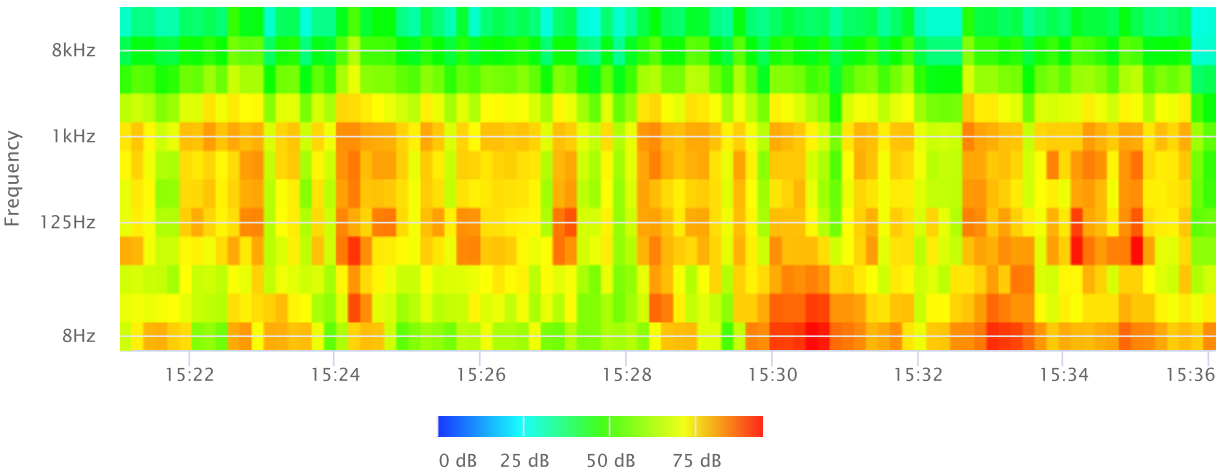
Time History



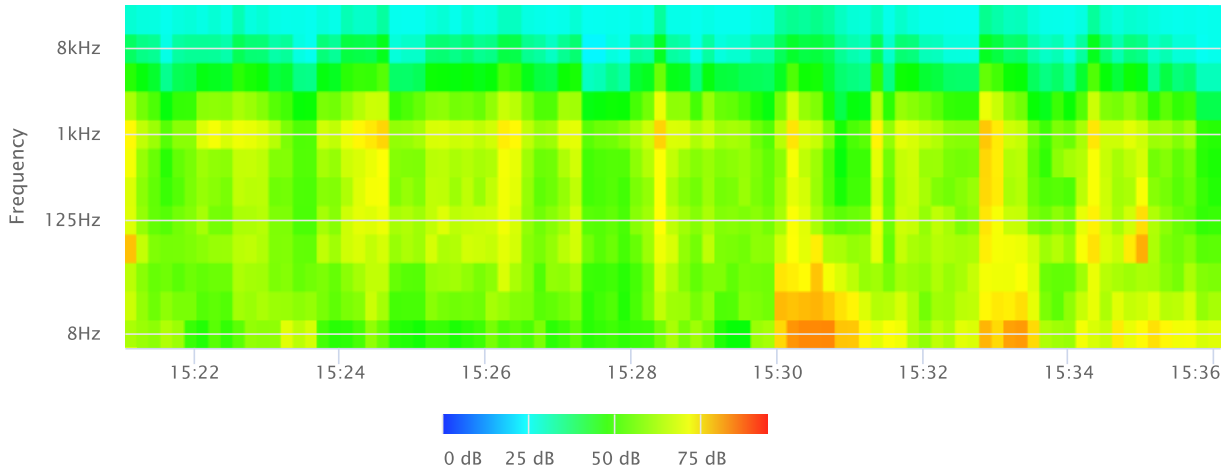
OBA 1/1 Leq



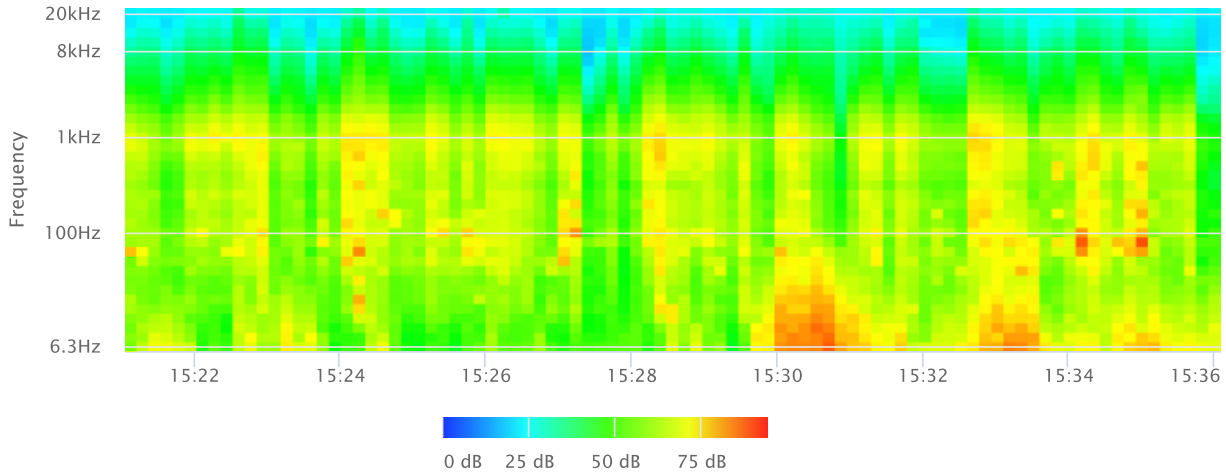
OBA 1/1 Lmax



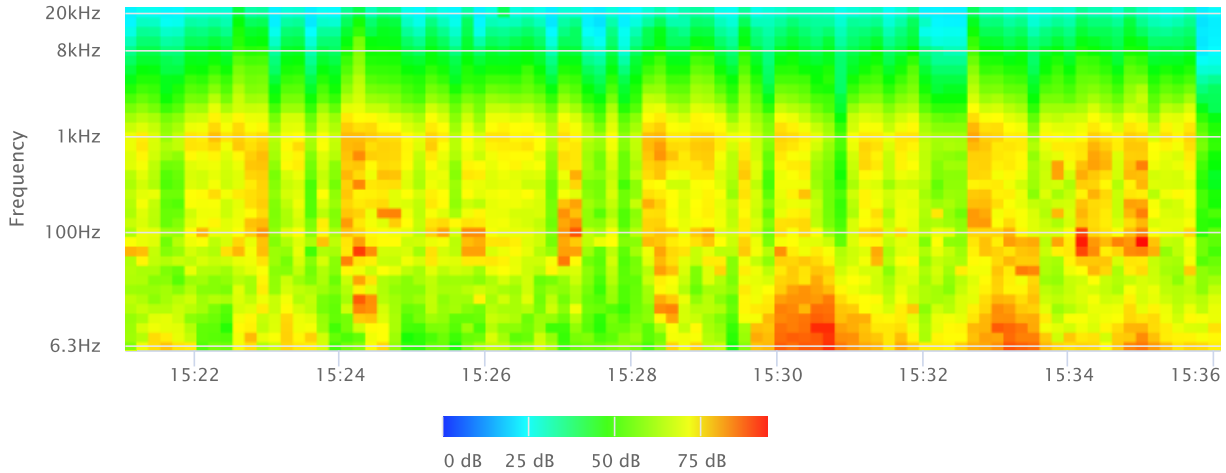
OBA 1/1 Lmin



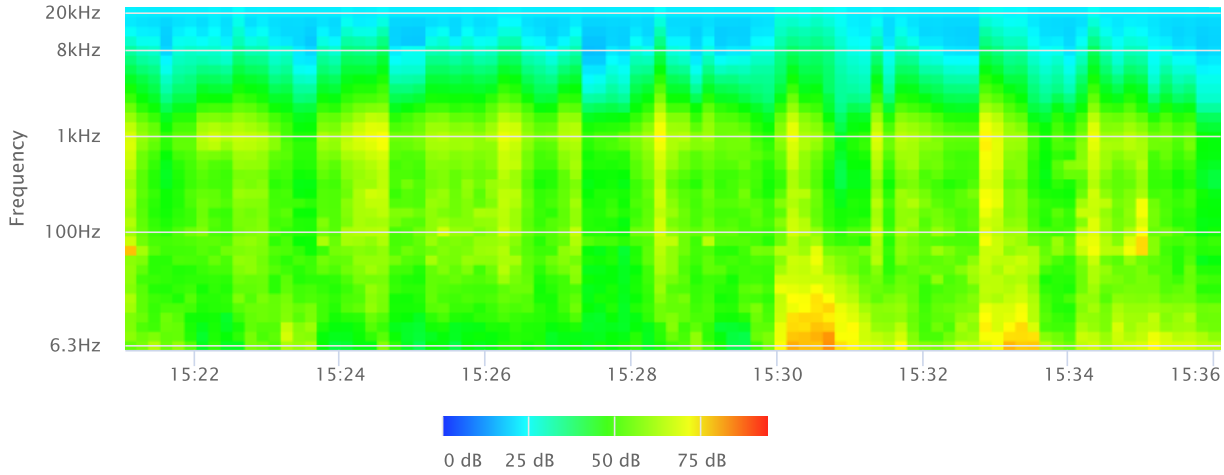
OBA 1/3 Leq



OBA 1/3 Lmax



OBA 1/3 Lmin


20kHz
8kHz
1kHz
100Hz
6.3Hz
Frequency
15:22
15:24
15:26
15:28
15:30
15:32
15:34
15:36
0 dB
25 dB
50 dB
75 dB

Noise Measurement
Field Data

Project Name: Beyond Food Mart (Clinton Keith Road & Jana Lane) City of Wildomar. **Date:** May 4, 2022

Project #: 19510

Noise Measurement #: STNM4 Run Time: 15 minutes (1 x 15 minutes) **Technician:** Ian Edward Gallagher

Nearest Address or Cross Street: 24919 Mauti Ct, Wildomar, CA 92595

Site Description (Type of Existing Land Use and any other notable features): Project Site: Vacant lot bordered by Clinton-Keith Road to north w/ single-family residential further north, Jana Lane to east w/ commercial & single-family residential further east, commercial and vacant land to west, and commercial to south. Noise Measurement Site: Mauri Court to north and single-family residential uses surrouding.

Weather: Clear skies, hazy sunshine. **Settings:** SLOW FAST

Temperature: 87 deg F **Wind:** 8mph **Humidity:** 14% **Terrain:** Flat

Start Time: 3:52 PM **End Time:** 4:07 PM **Run Time:**

Leq: 50.7 dB **Primary Noise Source:** Traffic ambiance of vehicles traveling along Clinton-Kieth Road S of STNM4 on other side of houses.

Lmax 67 dB

L2 55.5 dB **Secondary Noise Sources:** Leaf rustle from 8 mph breeze. Bird song. Distant dog bark

L8 53.3 dB

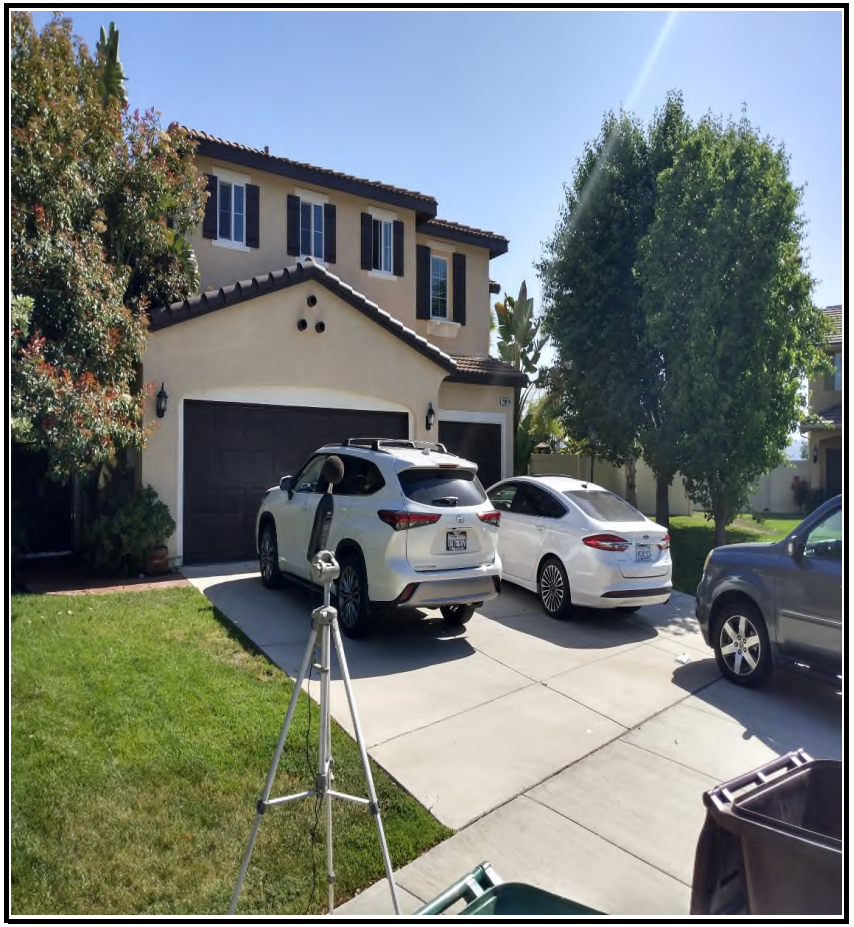
L25 51.5 dB

L50 49.7 dB

NOISE METER:	SoundTrack LXT Class 1	**CALIBRATOR:**	Larson Davis CA 250
MAKE:	Larson Davis	**MAKE:**	Larson Davis
MODEL:	LXT1	**MODEL:**	CA 250
SERIAL NUMBER:	3099	**SERIAL NUMBER:**	2723
FACTORY CALIBRATION DATE:	11/17/2021	**FACTORY CALIBRATION DATE:**	11/18/2021
FIELD CALIBRATION DATE:	5/4/2022		

Noise Measurement
Field Data

PHOTOS:



STNM4 looking SSW across front yard of residence 24919 Mauri Ct. Wildomar.

STNM4 looking W towards the end of Mauri Ct at residence 24895 Mauti Ct, Wildomar.

Summary	
File Name on Meter	LxT_Data.030.s
File Name on PC	LxT_0003099-20220504 155204-LxT_Data.030.ldbin
Serial Number	3099
Model	SoundTrack LxT®
Firmware Version	2.404
User	Ian Edward Gallagher
Location	STNM4 33°35'53.95"N 117°13'30.98"W
Job Description	15 minute noise measurement (1 x 15 minutes)
Note	Ganddini 19510 Beyond Food Mart , City of Wildomar

Measurement	
Start	2022-05-04 15:52:04
Stop	2022-05-04 16:07:04
Duration	00:15:00.0
Run Time	00:15:00.0
Pause	00:00:00.0
Pre-Calibration	2022-05-04 15:51:47
Post-Calibration	None

Overall Settings	
RMS Weight	A Weighting
Peak Weight	Z Weighting
Detector	Slow
Preamplifier	PRMLxT1L
Microphone Correction	Off
Integration Method	Linear
OBA Range	Normal
OBA Bandwidth	1/1 and 1/3
OBA Frequency Weighting	Z Weighting
OBA Max Spectrum	Bin Max
Overload	122.9 dB

Results			
LAeq	50.7		
LAE	80.2		
EA	11.74908	µPa²h	
EA8	375.9706	µPa²h	
EA40	1.879853	mPa²h	
LZpeak (max)	2022-05-04 15:53:01	100.4	dB
LASmax	2022-05-04 15:55:55	67.0	dB
LASmin	2022-05-04 16:00:56	41.5	dB

			Statistics		
LCeq	63.0	dB	**LA2.00**	55.5	dB
LAeq	50.7	dB	**LA8.00**	53.3	dB
LCeq - LAeq	12.3	dB	**LA25.00**	51.5	dB
LAleq	54.7	dB	**LA50.00**	49.7	dB
LAeq	50.7	dB	**LA66.60**	47.9	dB
LAleq - LAeq	4.0	dB	**LA90.00**	45.8	dB
Overload Count	0				

Measurement Report

Report Summary

Meter's File Name	LxT_Data.030.s	Computer's File Name	LxT_0003099-20220504 155204-LxT_Data.030.ldbin
Meter	LxT1 0003099		
Firmware	2.404		
User	Ian Edward Gallagher	Location	STNM4 33°35'53.95"N 117°13'30.98"W
Job Description	15 minute noise measurement (1 x 15 minutes)		
Note	Ganddini 19510 Beyond Food Mart , City of Wildonar		
Start Time	2022-05-04 15:52:04	Duration	0:15:00.0
End Time	2022-05-04 16:07:04	Run Time	0:15:00.0
Pause Time	0:00:00.0		

Results

Overall Metrics

LA_{eq}	50.7 dB		
LAE	80.2 dB	SEA	--- dB
EA	11.7 µPa²h	LAFTM5	56.2 dB
EA8	376.0 µPa²h		
EA40	1.9 mPa²h		
LZ_{peak}	100.4 dB	2022-05-04 15:53:01	
LAS_{max}	67.0 dB	2022-05-04 15:55:55	
LAS_{min}	41.5 dB	2022-05-04 16:00:56	
LA_{eq}	50.7 dB		
LC_{eq}	63.0 dB	LC_{eq} - LA_{eq}	12.3 dB
LAI_{eq}	54.7 dB	LAI_{eq} - LA_{eq}	4.0 dB

Exceedances	Count	Duration
LAS > 65.0 dB	1	0:00:01.4
LAS > 85.0 dB	0	0:00:00.0
LZpeak > 135.0 dB	0	0:00:00.0
LZpeak > 137.0 dB	0	0:00:00.0
LZpeak > 140.0 dB	0	0:00:00.0

Community Noise	LDN	LDay	LNight
	--- dB	--- dB	0.0 dB

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

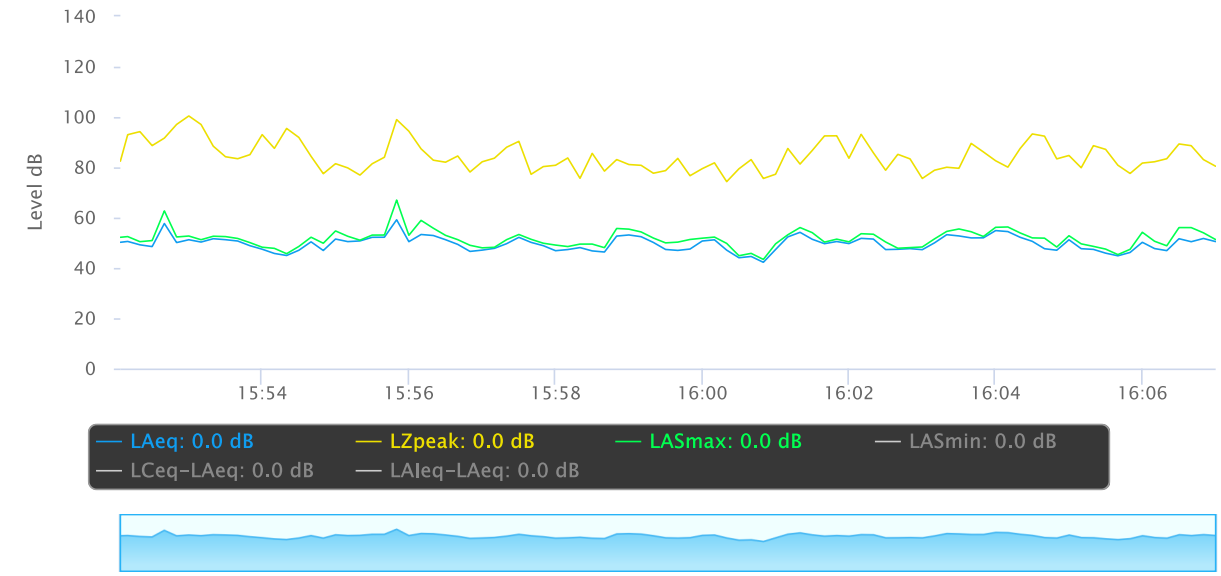
Any Data	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L_{eq}	50.7 dB		63.0 dB		--- dB	
$L_{S(max)}$	67.0 dB	2022-05-04 15:55:55	--- dB		--- dB	
$L_{S(min)}$	41.5 dB	2022-05-04 16:00:56	--- dB		--- dB	
$L_{Peak(max)}$	--- dB		--- dB		100.4 dB	2022-05-04 15:53:01

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

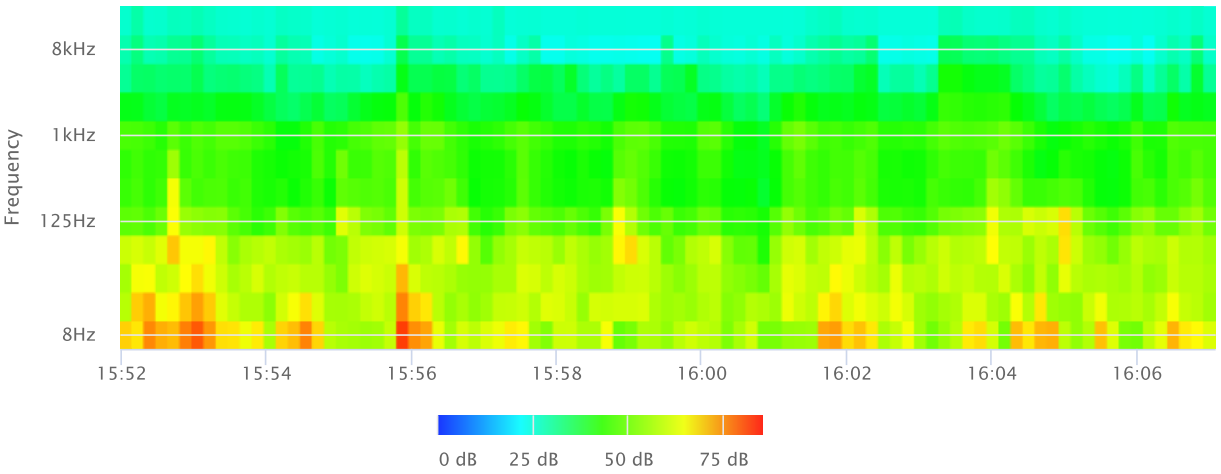
Statistics

LAS 2.0	55.5 dB
LAS 8.0	53.3 dB
LAS 25.0	51.5 dB
LAS 50.0	49.7 dB
LAS 66.6	47.9 dB
LAS 90.0	45.8 dB

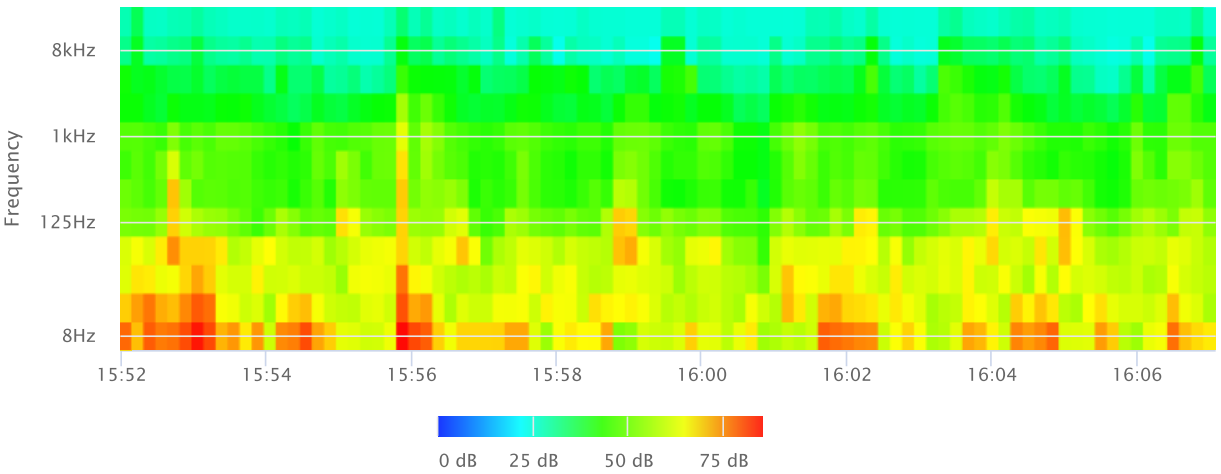
Time History



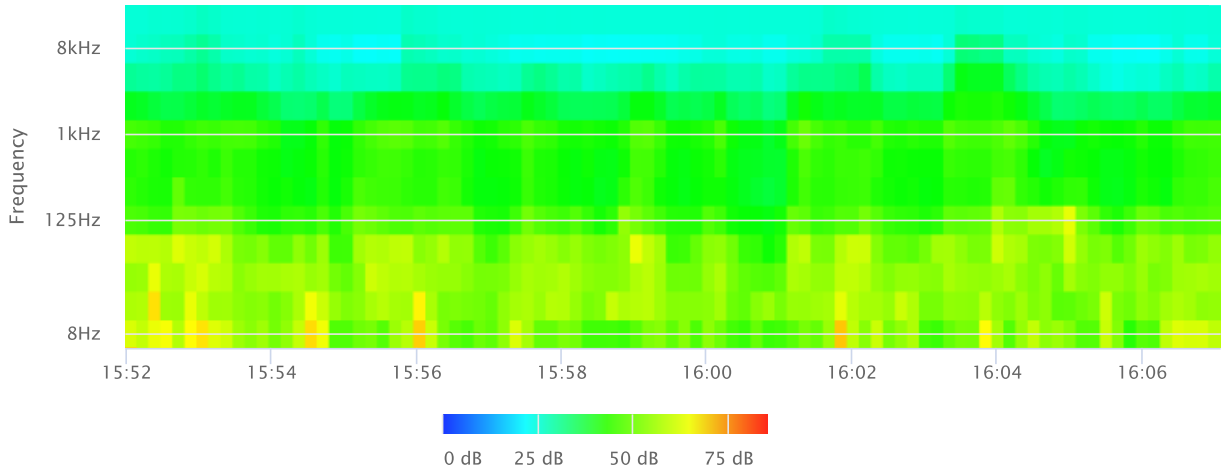
OBA 1/1 Leq



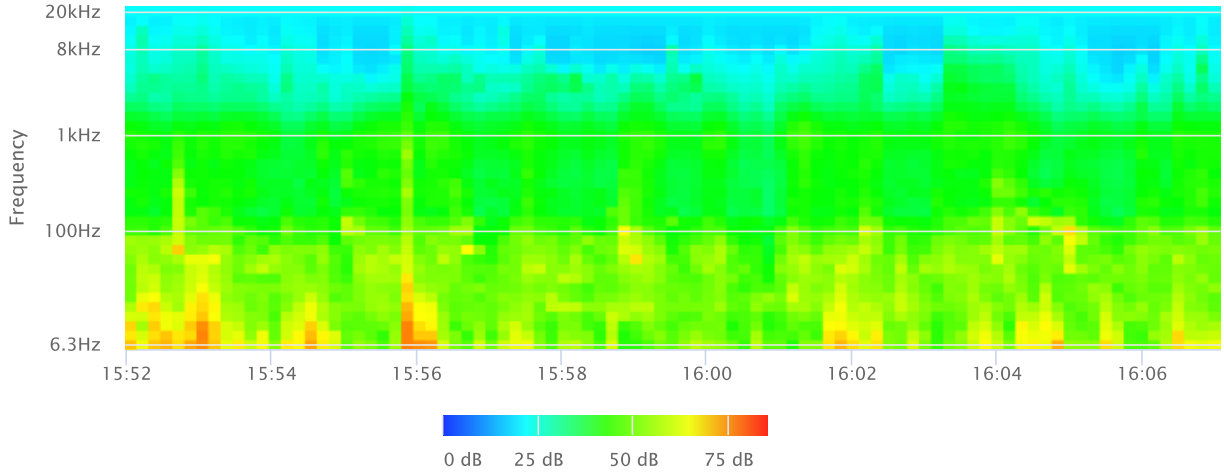
OBA 1/1 Lmax



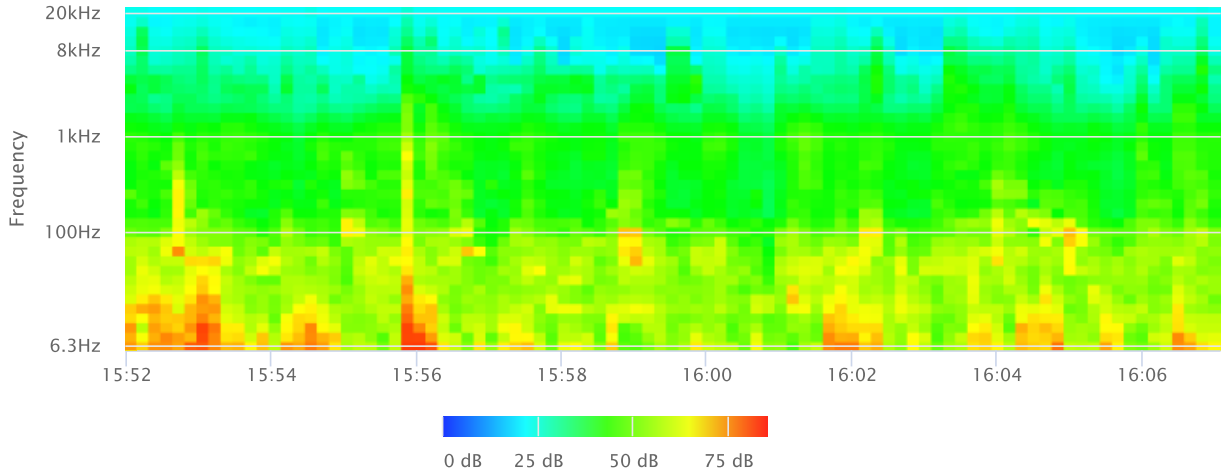
OBA 1/1 Lmin



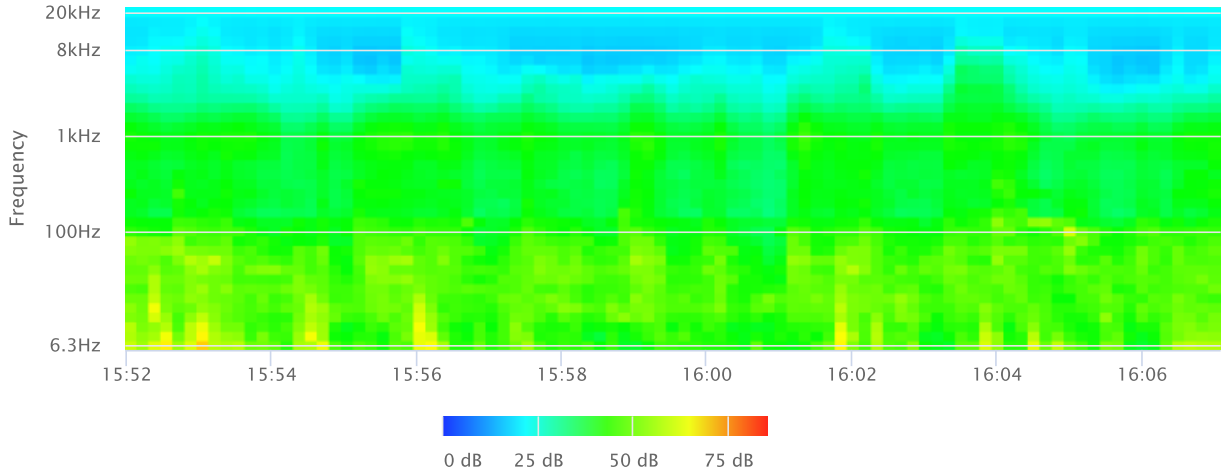
OBA 1/3 Leq



OBA 1/3 Lmax



OBA 1/3 Lmin


20kHz
8kHz
1kHz
100Hz
6.3Hz
Frequency
15:52
15:54
15:56
15:58
16:00
16:02
16:04
16:06
0 dB
25 dB
50 dB
75 dB

Noise Measurement
Field Data

Project Name: Beyond Food Mart (Clinton Keith Road & Jana Lane) City of Wildomar. **Date:** May 4, 2022

Project #: 19510

Noise Measurement #: STNM5 Run Time: 15 minutes (1 x 15 minutes) **Technician:** Ian Edward Gallagher

Nearest Address or Cross Street: 25006 Crimson Lasso Dr, Wildomar, CA 92595

Site Description (Type of Existing Land Use and any other notable features): Project Site: Vacant lot bordered by Clinton-Keith Road to north w/ single-family residential further north, Jana Lane to east w/ commercial & single-family residential further east, commercial and vacant land to west, and commercial to south. Noise Measurement Site: Single-family res to north and northeast, Crimson Lasso Dr to south and west with single-family res further south and commercial uses further west.

Weather: Clear skies, hazy sunshine. **Settings:** SLOW FAST

Temperature: 87 deg F **Wind:** 8mph **Humidity:** 14% **Terrain:** Flat

Start Time: 4:36 PM **End Time:** 4:51 PM **Run Time:**

Leq:	56.8	dB	**Primary Noise Source:** Traffic ambiance of vehicles traveling along Clinton-Kieth Rd N of STNM5.
Lmax	68.6	dB	17 vehicles passed microphone traveling along Smith Ranch Road.
L2	63.2	dB	**Secondary Noise Sources:** Leaf rustle from 8 mph breeze. Some overhead air traffic.
L8	60.2	dB	
L25	57.4	dB	
L50	55.3	dB	

NOISE METER:	SoundTrack LXT Class 1	**CALIBRATOR:**	Larson Davis CA 250
MAKE:	Larson Davis	**MAKE:**	Larson Davis
MODEL:	LXT1	**MODEL:**	CA 250
SERIAL NUMBER:	3099	**SERIAL NUMBER:**	2723
FACTORY CALIBRATION DATE:	11/17/2021	**FACTORY CALIBRATION DATE:**	11/18/2021
FIELD CALIBRATION DATE:	5/4/2022		

Noise Measurement
Field Data

PHOTOS:

STNM5 looking NNE towards frontyard of residence 25006 Crimson Lasso Drive, Wildomar.

STNM5 looking NW across Smith Ranch Road towards Clinton-Keith Road intersection.

Summary	
File Name on Meter	LxT_Data.031.s
File Name on PC	LxT_0003099-20220504 163647-LxT_Data.031.ldbin
Serial Number	3099
Model	SoundTrack LxT®
Firmware Version	2.404
User	Ian Edward Gallagher
Location	STNM5 33°35'50.16"N 117°13'25.27"W
Job Description	15 minute noise measurement (1 x 15 minutes)
Note	Ganddini 19510 Beyond Food Mart , City of Wildomar

Measurement	
Start	2022-05-04 16:36:47
Stop	2022-05-04 16:51:47
Duration	00:15:00.0
Run Time	00:15:00.0
Pause	00:00:00.0
Pre-Calibration	2022-05-04 16:36:28
Post-Calibration	None

Overall Settings	
RMS Weight	A Weighting
Peak Weight	Z Weighting
Detector	Slow
Preamplifier	PRMLxT1L
Microphone Correction	Off
Integration Method	Linear
OBA Range	Normal
OBA Bandwidth	1/1 and 1/3
OBA Frequency Weighting	Z Weighting
OBA Max Spectrum	Bin Max
Overload	123.1 dB

Results			
LA_{eq}	56.8		
LAE	86.3		
EA	47.6102	µPa²h	
EA8	1.523526	mPa²h	
EA40	7.617632	mPa²h	
$LZ_{peak\ (max)}$	2022-05-04 16:45:21	110.0	dB
LAS_{max}	2022-05-04 16:39:17	68.6	dB
LAS_{min}	2022-05-04 16:47:25	44.8	dB

			Statistics		
LC_{eq}	70.5	dB	**LA2.00**	63.2	dB
LA_{eq}	56.8	dB	**LA8.00**	60.2	dB
LC_{eq} - LA_{eq}	13.7	dB	**LA25.00**	57.4	dB
LAI_{eq}	58.4	dB	**LA50.00**	55.3	dB
LA_{eq}	56.8	dB	**LA66.60**	53.9	dB
LAI_{eq} - LA_{eq}	1.6	dB	**LA90.00**	49.4	dB
Overload Count	0				

Measurement Report

Report Summary

Meter's File Name	LxT_Data.031.s	Computer's File Name	LxT_0003099-20220504 163647-LxT_Data.031.ldbin
Meter	LxT1 0003099		
Firmware	2.404		
User	Ian Edward Gallagher	Location	STNM5 33°35'50.16"N 117°13'25.27"W
Job Description	15 minute noise measurement (1 x 15 minutes)		
Note	Ganddini 19510 Beyond Food Mart , City of Wildonar		
Start Time	2022-05-04 16:36:47	Duration	0:15:00.0
End Time	2022-05-04 16:51:47	Run Time	0:15:00.0
Pause Time	0:00:00.0		

Results

Overall Metrics

LA_{eq}	56.8 dB		
LAE	86.3 dB	SEA	--- dB
EA	47.6 µPa²h	LAFTM5	60.7 dB
EA8	1.5 mPa²h		
EA40	7.6 mPa²h		
LZ_{peak}	110.0 dB	2022-05-04 16:45:21	
LAS_{max}	68.6 dB	2022-05-04 16:39:17	
LAS_{min}	44.8 dB	2022-05-04 16:47:25	
LA_{eq}	56.8 dB		
LC_{eq}	70.5 dB	LC_{eq} - LA_{eq}	13.7 dB
LAI_{eq}	58.4 dB	LAI_{eq} - LA_{eq}	1.6 dB

Exceedances	Count	Duration
LAS > 65.0 dB	5	0:00:11.4
LAS > 85.0 dB	0	0:00:00.0
LZpeak > 135.0 dB	0	0:00:00.0
LZpeak > 137.0 dB	0	0:00:00.0
LZpeak > 140.0 dB	0	0:00:00.0

Community Noise	LDN	LDay	LNight
	--- dB	--- dB	0.0 dB

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

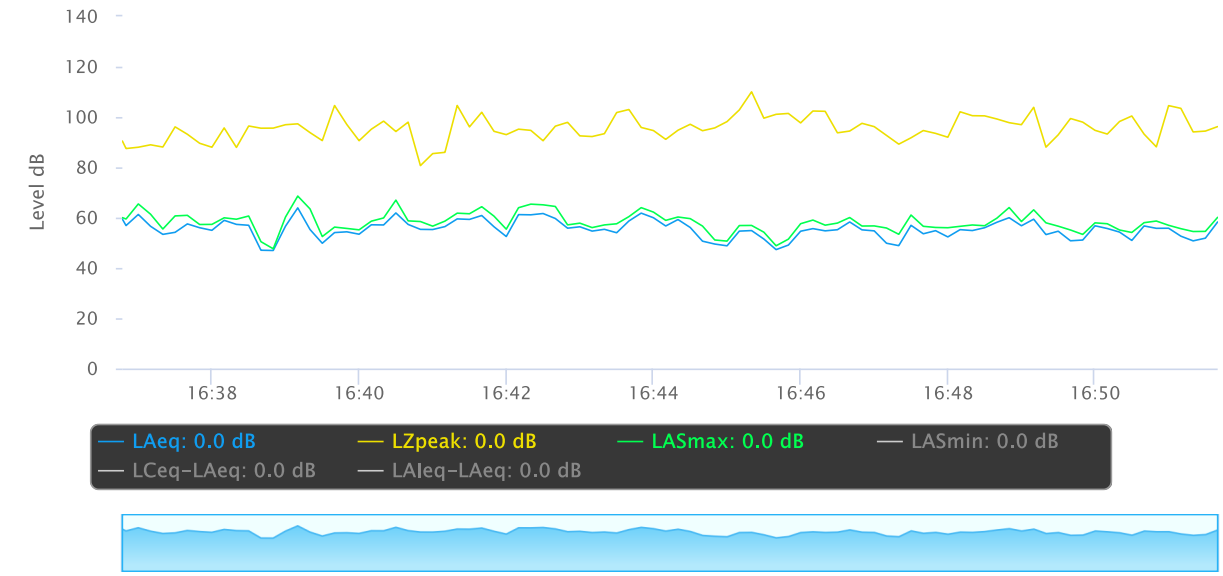
Any Data	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L_{eq}	56.8 dB		70.5 dB		--- dB	
$L_{S(max)}$	68.6 dB	2022-05-04 16:39:17	--- dB		--- dB	
$L_{S(min)}$	44.8 dB	2022-05-04 16:47:25	--- dB		--- dB	
$L_{Peak(max)}$	--- dB		--- dB		110.0 dB	2022-05-04 16:45:21

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

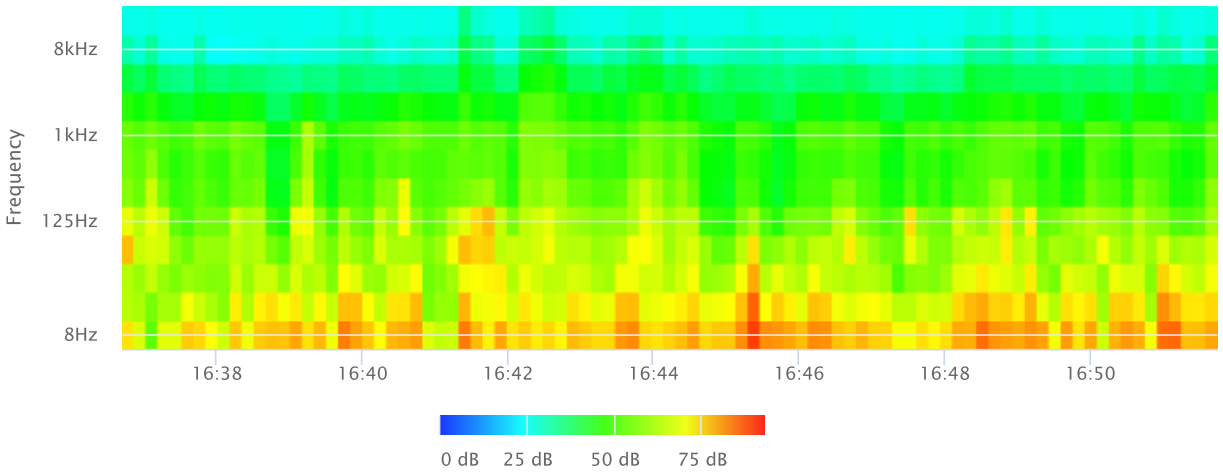
Statistics

LAS 2.0	63.2 dB
LAS 8.0	60.2 dB
LAS 25.0	57.4 dB
LAS 50.0	55.3 dB
LAS 66.6	53.9 dB
LAS 90.0	49.4 dB

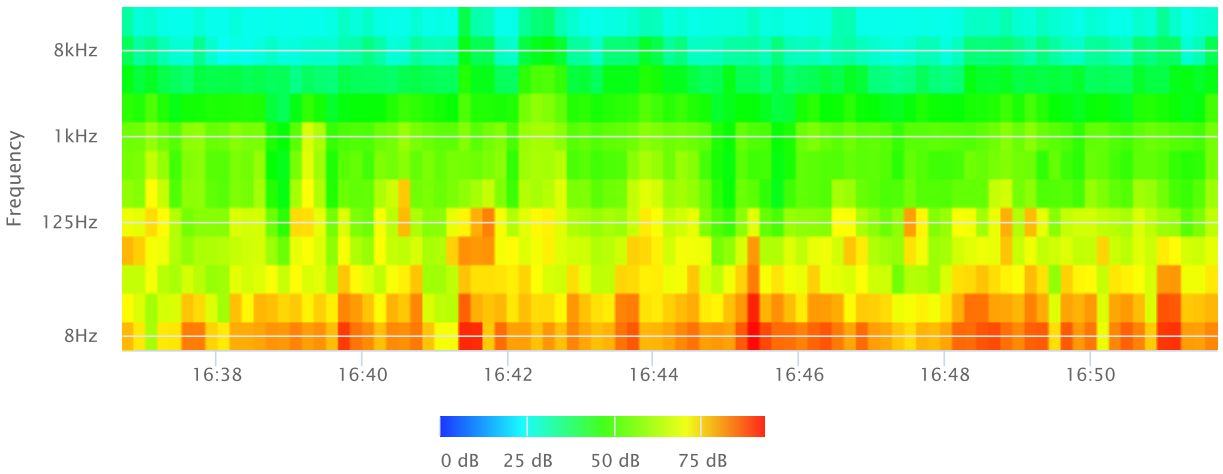
Time History



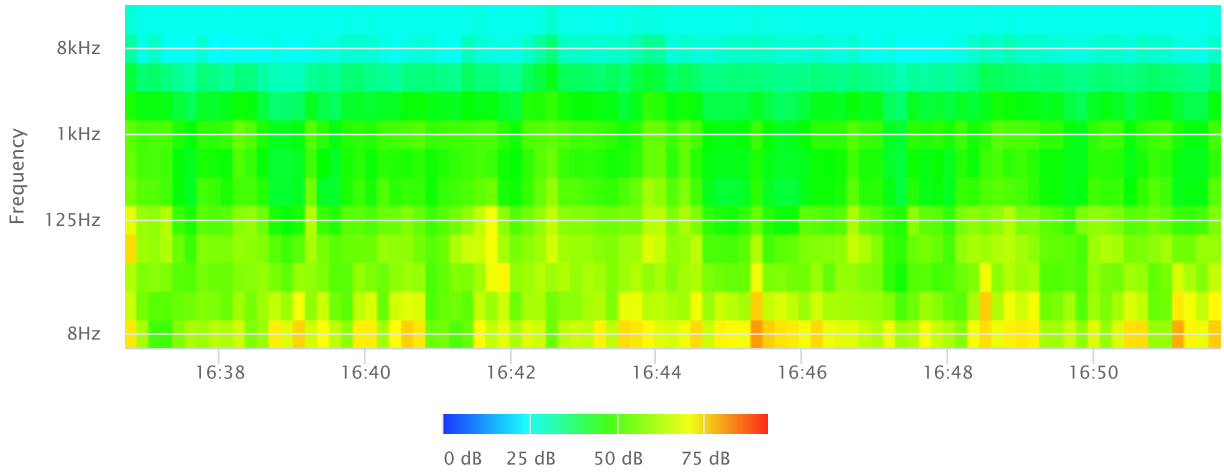
OBA 1/1 Leq



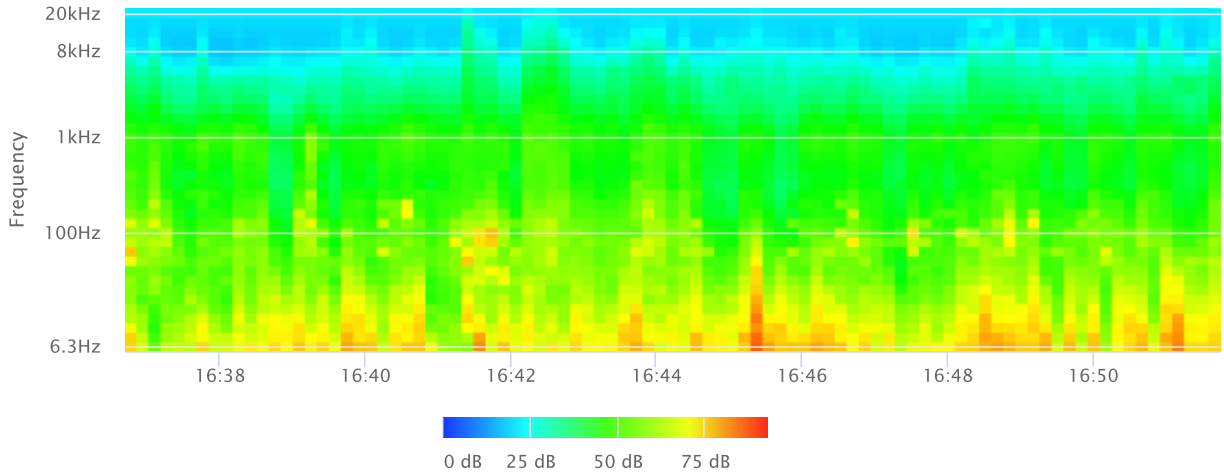
OBA 1/1 Lmax



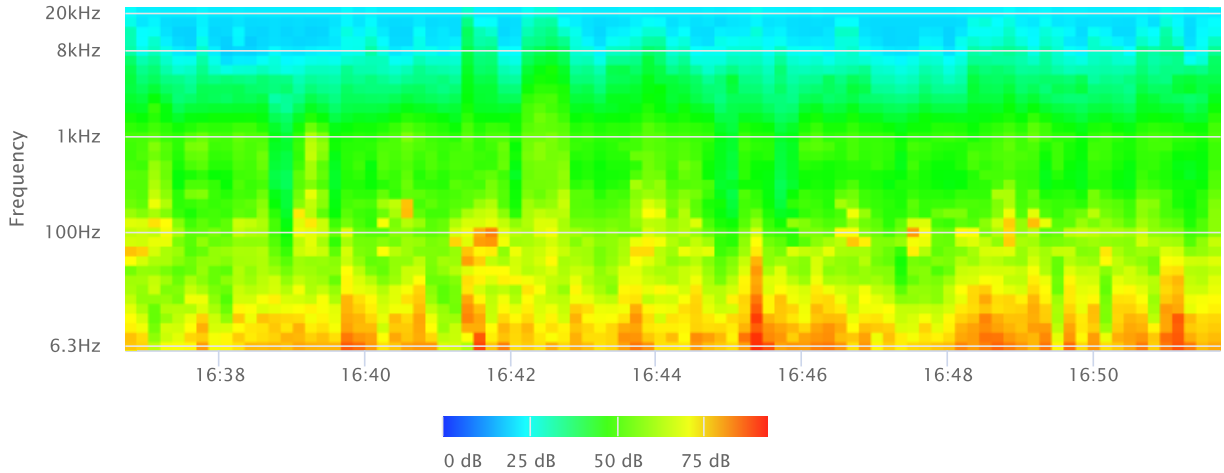
OBA 1/1 Lmin



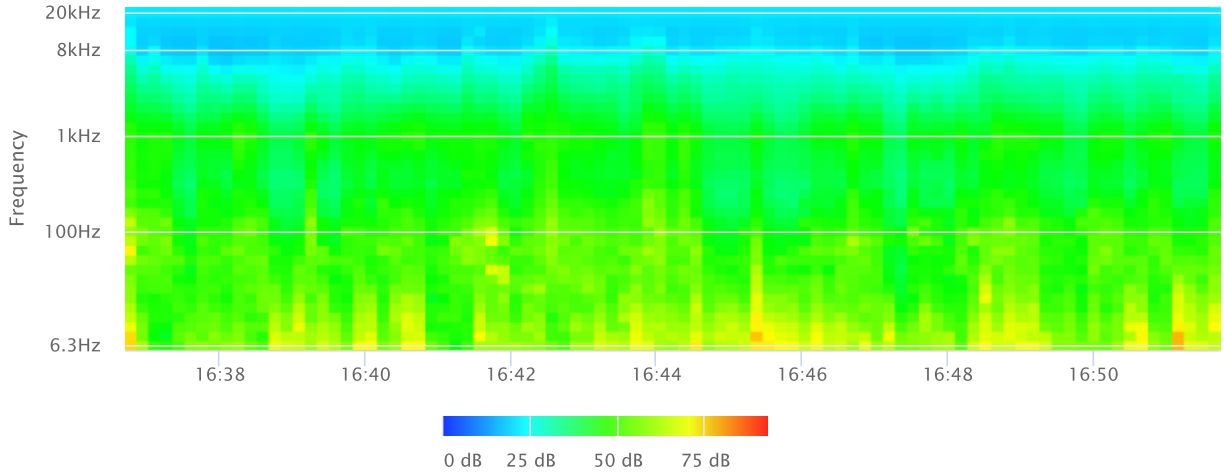
OBA 1/3 Leq



OBA 1/3 Lmax



OBA 1/3 Lmin


20kHz
8kHz
1kHz
100Hz
6.3Hz
Frequency
16:38
16:40
16:42
16:44
16:46
16:48
16:50
0 dB
25 dB
50 dB
75 dB

Noise Measurement
Field Data

Project Name: Beyond Food Mart (Clinton Keith Road & Jana Lane) City of Wildomar **Date:** May 4 to 5, 2022

Project #: 19510

Noise Measurement #: LTNM1 Run Time: 24 hours (24 x 1 hours) **Technician:** Ian Edward Gallagher

Nearest Address or Cross Street: Jana Lane & Clinton-Keith Road

Site Description (Type of Existing Land Use and any other notable features): Project Site: Vacant lot bordered by Clinton-Keith Road to north w/ single-family residential further north, Jana Lane to east w/ commercial & single-family residential further east, commercial and vacant land to west, and commercial to south. Noise Measurement Site: Vacant project site surrouding with Clinton-Keith Road to north.

Weather: Clear skies, sunnrise/set: **Settings:** SLOW FAST

Temperature: 59 -88 deg F **Wind:** 0-9 mph **Humidity:** 14-40% **Terrain:** Flat

Start Time: 7:00 PM **End Time:** 7:00 PM **Run Time:**

Leq: 60.6 dB **Primary Noise Source:** Vehicles traveling along Clinton-Keith Road, traffic ambiance from other roads.

Lmax 90.1 dB

L2 67.2 dB **Secondary Noise Sources:** Leaf rustle from 8 mph breeze. Bird song by day, crickets at night.

L8 64.8 dB Occassional overhead air traffic.

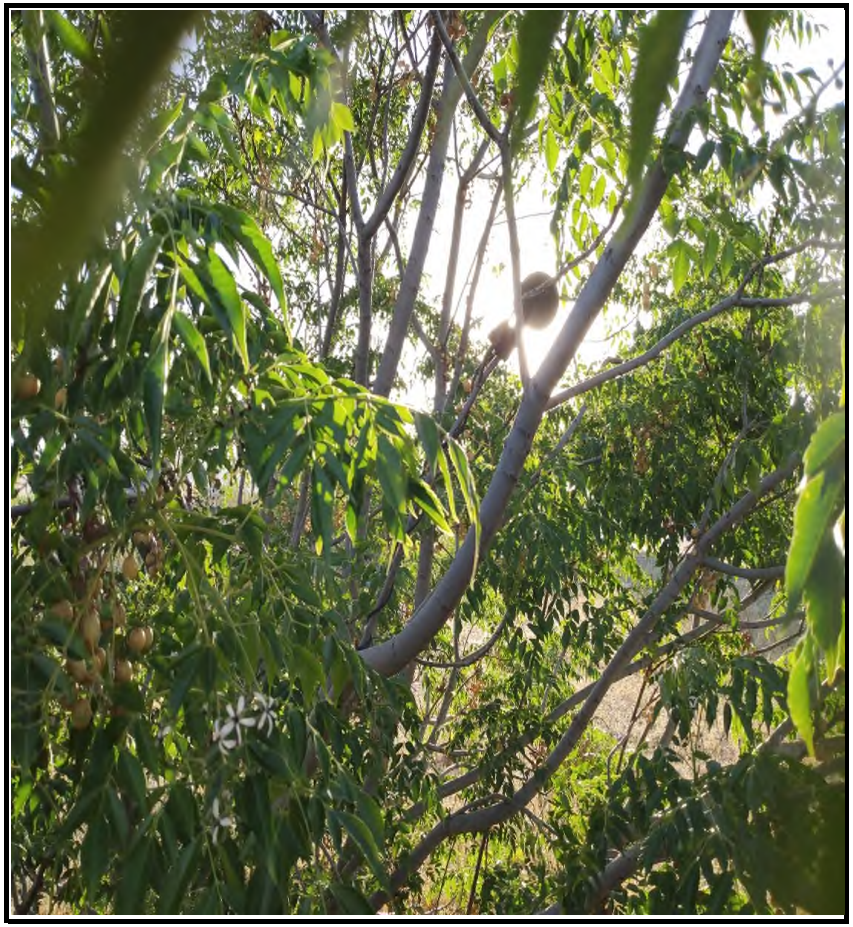
L25 61.8 dB

L50 57.8 dB

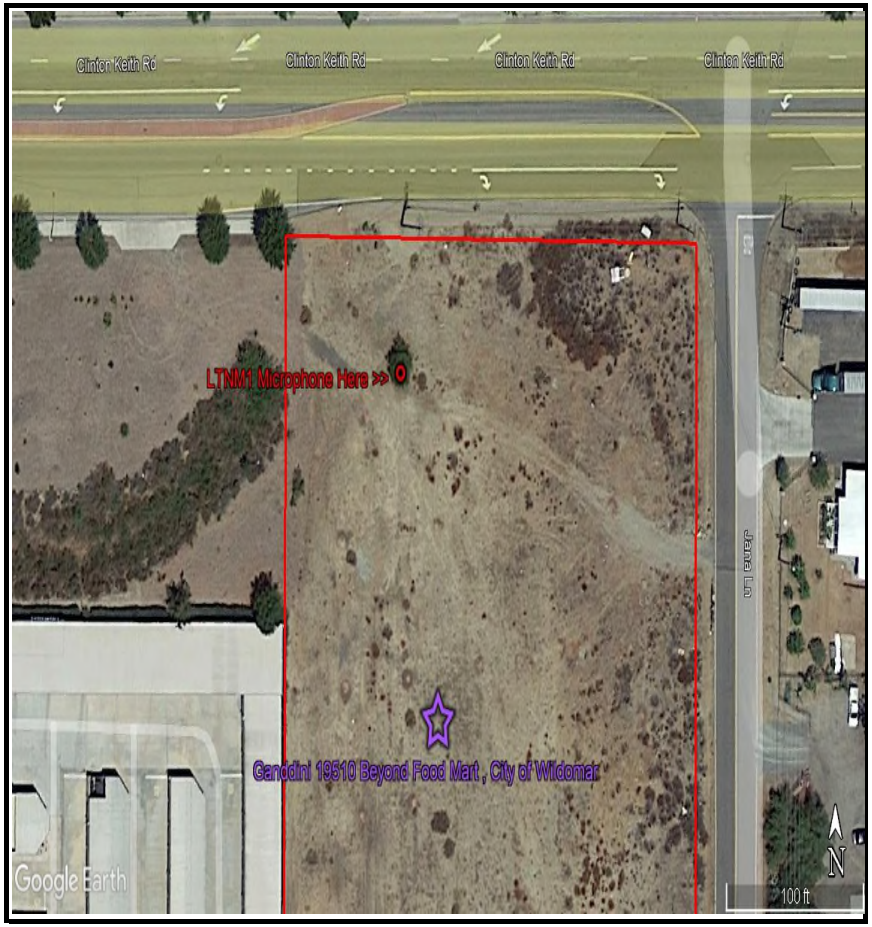
NOISE METER:	SoundTrack LXT Class 1	**CALIBRATOR:**	Larson Davis CA 250
MAKE:	Larson Davis	**MAKE:**	Larson Davis
MODEL:	LXT1	**MODEL:**	CA 250
SERIAL NUMBER:	3099	**SERIAL NUMBER:**	2723
FACTORY CALIBRATION DATE:	11/17/2021	**FACTORY CALIBRATION DATE:**	11/18/2021
FIELD CALIBRATION DATE:	5/4/2022		

Noise Measurement
Field Data

PHOTOS:



LTNM1 looking W, microphone located in small tree. Microphone ~6.5 ft above the ground.



LTNM1 aerial view showing location of microphone in relation to surrounding area.

Summary	
File Name on Meter	LxT_Data.032.s
File Name on PC	LxT_0003099-20220504 190000-LxT_Data.032.ldb
Serial Number	3099
Model	SoundTrack LxT®
Firmware Version	2.404
User	Ian Edward Gallagher
Location	LTNM1 33°35'50.97"N 117°13'36.08"W
Job Description	24 hour noise measurement (24 x 1 hours)
Note	Ganddini 19510 Beyond Food Mart , City of Wildomar

Measurement	
Start	2022-05-04 19:00:00
Stop	2022-05-05 19:00:00
Duration	24:00:00.0
Run Time	24:00:00.0
Pause	00:00:00.0
Pre-Calibration	2022-05-04 18:03:20
Post-Calibration	None

Overall Settings	
RMS Weight	A Weighting
Peak Weight	A Weighting
Detector	Slow
Preamplifier	PRMLxT1L
Microphone Correction	Off
Integration Method	Linear
OBA Range	Normal
OBA Bandwidth	1/1 and 1/3
OBA Frequency Weighting	A Weighting
OBA Max Spectrum	Bin Max
Overload	122.9 dB

Results			
LAeq	60.6		
LAE	110.0		
EA	11.04384	mPa²h	
EA8	3.681278	mPa²h	
EA40	18.40639	mPa²h	
LApeak (max)	2022-05-04 19:32:17	106.7	dB
LASmax	2022-05-05 12:10:07	90.1	dB
LASmin	2022-05-05 02:12:44	34.4	dB

		Statistics	
LCeq	66.7 dB	**LA2.00**	67.2 dB
LAeq	60.6 dB	**LA8.00**	64.8 dB
LCeq - LAeq	6.1 dB	**LA25.00**	61.9 dB
LAIeq	61.9 dB	**LA50.00**	57.8 dB
LAeq	60.6 dB	**LA90.00**	44.4 dB
LAIeq - LAeq	1.3 dB	**LA99.00**	38.6 dB
Overload Count	0		

Record #	Date	Time	Run Duration	Run Time	Pause	LAeq	LASmin	LASmin Time	LASmax	LASmax Time	LAS2.00	LAS8.00	LAS25.00	LAS50.00	LAS90.00	LAS99.00
1	2022-05-04	19:00:00	01:00:00.0	01:00:00.0	00:00:00.0	64.3	43.8	19:28:14	79.0	19:32:18	69.6	68.0	66.0	62.9	51.9	46.7
2	2022-05-04	20:00:00	01:00:00.0	01:00:00.0	00:00:00.0	61.5	37.7	20:59:38	75.0	20:38:08	67.4	65.6	63.0	60.0	48.8	42.7
3	2022-05-04	21:00:00	01:00:00.0	01:00:00.0	00:00:00.0	61.5	36.8	21:57:12	83.2	21:28:53	67.2	65.0	62.4	58.7	46.1	41.5
4	2022-05-04	22:00:00	01:00:00.0	01:00:00.0	00:00:00.0	59.0	34.6	22:09:02	75.5	22:53:44	66.2	64.0	60.5	54.1	43.6	38.4
5	2022-05-04	23:00:00	01:00:00.0	01:00:00.0	00:00:00.0	56.8	36.1	23:35:45	70.1	23:13:33	64.7	62.2	57.9	49.9	41.3	37.6
6	2022-05-05	00:00:00	01:00:00.0	01:00:00.0	00:00:00.0	54.8	37.5	00:50:56	68.9	00:39:54	64.1	60.5	53.5	46.9	40.5	38.3
7	2022-05-05	01:00:00	01:00:00.0	01:00:00.0	00:00:00.0	54.2	36.3	01:47:00	73.0	01:37:08	63.6	60.2	50.9	45.3	39.0	37.3
8	2022-05-05	02:00:00	01:00:00.0	01:00:00.0	00:00:00.0	53.4	34.4	02:12:44	68.5	02:48:43	63.2	59.0	50.2	45.3	40.3	36.8
9	2022-05-05	03:00:00	01:00:00.0	01:00:00.0	00:00:00.0	56.2	37.7	03:00:08	70.6	03:23:32	64.9	61.8	55.3	49.3	43.6	40.4
10	2022-05-05	04:00:00	01:00:00.0	01:00:00.0	00:00:00.0	60.3	43.2	04:21:23	76.5	04:37:31	67.2	64.9	61.4	56.1	48.2	45.0
11	2022-05-05	05:00:00	01:00:00.0	01:00:00.0	00:00:00.0	62.3	46.9	05:18:33	81.0	05:27:53	68.0	66.2	63.8	60.2	52.9	48.1
12	2022-05-05	06:00:00	01:00:00.0	01:00:00.0	00:00:00.0	63.8	47.5	06:30:36	81.9	06:11:26	69.0	67.2	65.1	62.6	53.9	49.7
13	2022-05-05	07:00:00	01:00:00.0	01:00:00.0	00:00:00.0	62.7	45.3	07:57:18	73.7	07:22:09	67.4	66.0	64.2	62.1	53.3	48.2
14	2022-05-05	08:00:00	01:00:00.0	01:00:00.0	00:00:00.0	61.8	39.4	08:37:15	76.8	08:09:07	67.1	65.4	63.3	60.8	49.9	42.3
15	2022-05-05	09:00:00	01:00:00.0	01:00:00.0	00:00:00.0	60.5	36.4	09:35:55	73.0	09:21:25	66.4	64.4	62.1	59.0	46.3	39.5
16	2022-05-05	10:00:00	01:00:00.0	01:00:00.0	00:00:00.0	59.5	35.4	10:38:47	72.5	10:41:51	65.6	63.5	60.9	57.8	43.5	36.8
17	2022-05-05	11:00:00	01:00:00.0	01:00:00.0	00:00:00.0	58.6	34.7	11:16:17	72.7	11:23:30	64.8	62.8	60.1	56.7	42.8	37.0
18	2022-05-05	12:00:00	01:00:00.0	01:00:00.0	00:00:00.0	61.1	36.3	12:18:42	90.1	12:10:07	65.2	62.9	60.3	57.1	43.8	39.0
19	2022-05-05	13:00:00	01:00:00.0	01:00:00.0	00:00:00.0	59.3	38.0	13:24:53	76.9	13:17:09	65.4	62.5	60.3	57.6	47.5	40.2
20	2022-05-05	14:00:00	01:00:00.0	01:00:00.0	00:00:00.0	60.5	39.4	14:10:50	79.9	14:15:27	66.4	63.5	61.3	58.7	50.0	43.2
21	2022-05-05	15:00:00	01:00:00.0	01:00:00.0	00:00:00.0	60.7	40.1	15:18:37	77.7	15:46:41	65.8	64.0	62.1	59.7	49.8	42.8
22	2022-05-05	16:00:00	01:00:00.0	01:00:00.0	00:00:00.0	61.1	42.8	16:25:42	77.3	16:37:05	66.2	64.4	62.6	60.1	51.2	46.9
23	2022-05-05	17:00:00	01:00:00.0	01:00:00.0	00:00:00.0	61.3	40.9	17:53:14	76.2	17:50:19	65.9	64.5	62.8	60.7	50.7	44.7
24	2022-05-05	18:00:00	01:00:00.0	01:00:00.0	00:00:00.0	61.2	40.8	18:57:08	77.3	18:03:40	66.3	64.6	62.7	60.1	49.5	43.3

Measurement Report

Report Summary

Meter's File Name	LxT_Data.032.s	Computer's File Name	LxT_0003099-20220504 190000-LxT_Data.032.ldbin
Meter	LxT1 0003099		
Firmware	2.404		
User	Ian Edward Gallagher	Location	LTNM1 33°35'50.97"N 117°13'36.08"W
Job Description	24 hour noise measurement (24 x 1 hours)		
Note	Ganddini 19510 Beyond Food Mart , City of Wildonar		
Start Time	2022-05-04 19:00:00	Duration	24:00:00.0
End Time	2022-05-05 19:00:00	Run Time	24:00:00.0
Pause Time	0:00:00.0		

Results

Overall Metrics

LA_{eq}	60.6 dB		
LAE	110.0 dB	SEA	--- dB
EA	11.0 mPa²h	LAFTM5	63.9 dB
EA8	3.7 mPa²h		
EA40	18.4 mPa²h		
LA_{peak}	106.7 dB	2022-05-04 19:32:17	
LAS_{max}	90.1 dB	2022-05-05 12:10:07	
LAS_{min}	34.4 dB	2022-05-05 02:12:44	
LA_{eq}	60.6 dB		
LC_{eq}	66.7 dB	LC_{eq} - LA_{eq}	6.1 dB
LAI_{eq}	61.9 dB	LAI_{eq} - LA_{eq}	1.3 dB

Exceedances	Count	Duration
LAS > 65.0 dB	1273	2:41:24.2
LAS > 85.0 dB	1	0:00:02.5
LApeak > 135.0 dB	0	0:00:00.0
LApeak > 137.0 dB	0	0:00:00.0
LApeak > 140.0 dB	0	0:00:00.0

Community Noise	LDN	LDay	LNight
	--- dB	--- dB	0.0 dB

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

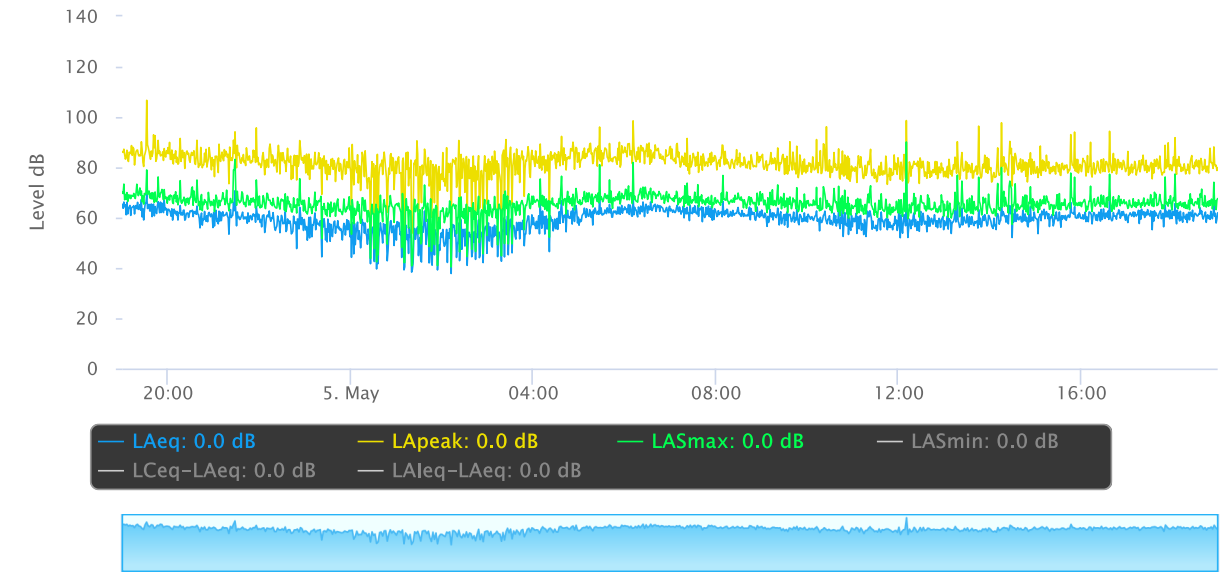
Any Data	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L_{eq}	60.6 dB		66.7 dB		--- dB	
$L_{S(max)}$	90.1 dB	2022-05-05 12:10:07	--- dB		--- dB	
$L_{S(min)}$	34.4 dB	2022-05-05 02:12:44	--- dB		--- dB	
$L_{Peak(max)}$	106.7 dB	2022-05-04 19:32:17	--- dB		--- dB	

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

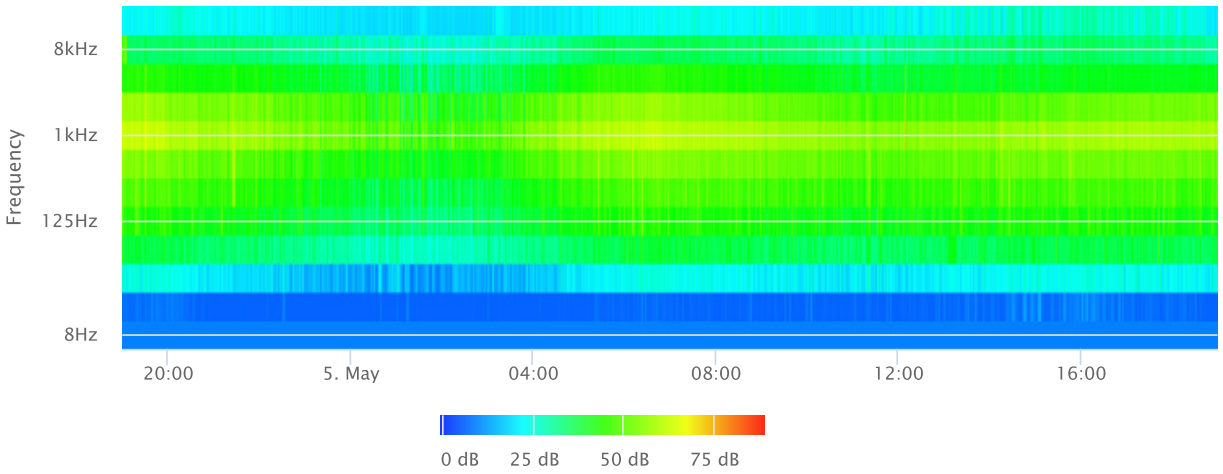
Statistics

LAS 2.0	67.2 dB
LAS 8.0	64.8 dB
LAS 25.0	61.9 dB
LAS 50.0	57.8 dB
LAS 90.0	44.4 dB
LAS 99.0	38.6 dB

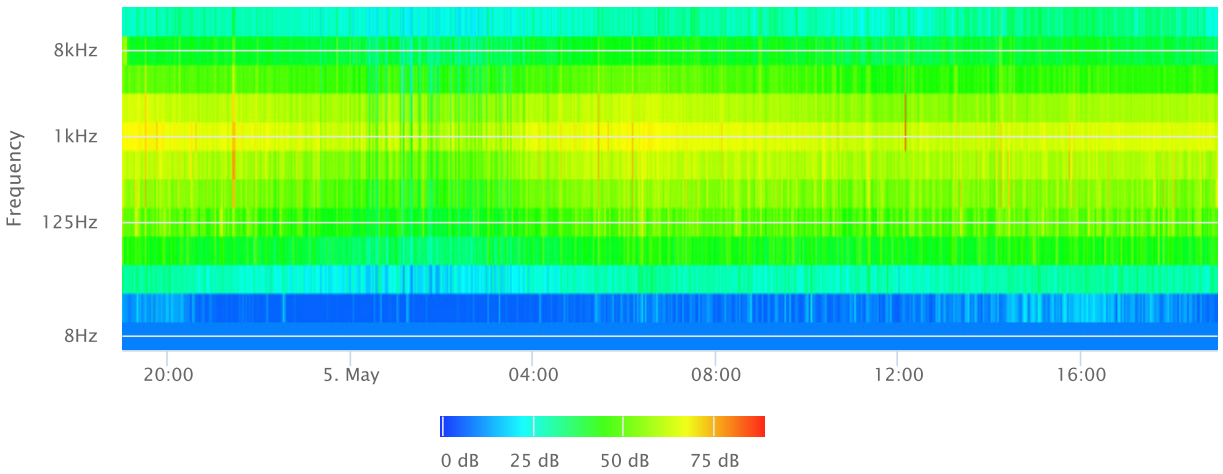
Time History



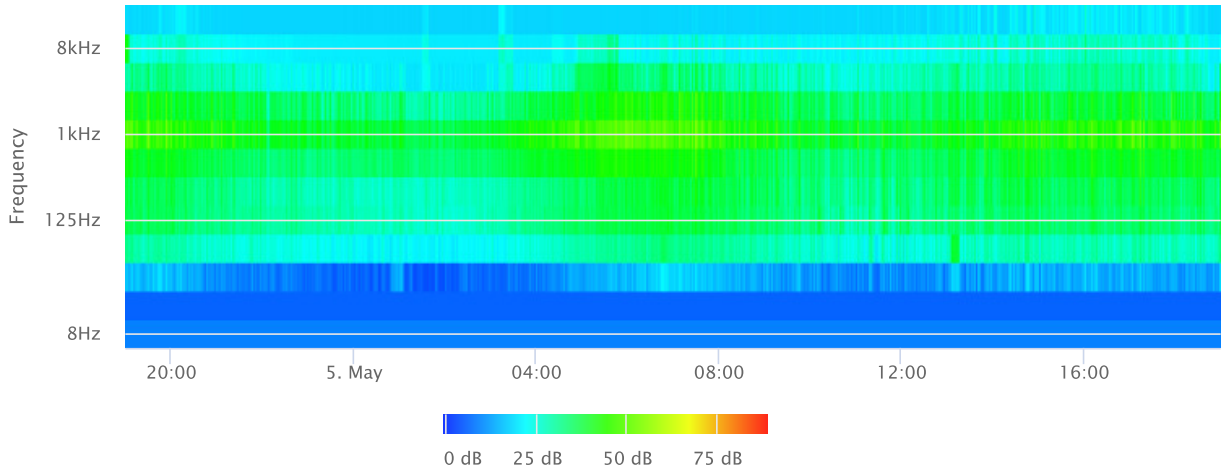
OBA 1/1 Leq



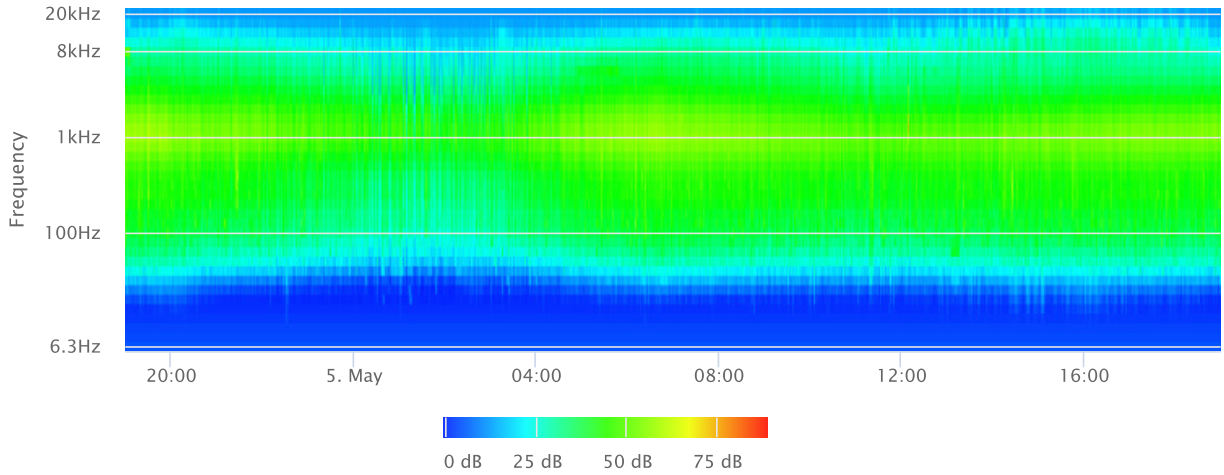
OBA 1/1 Lmax



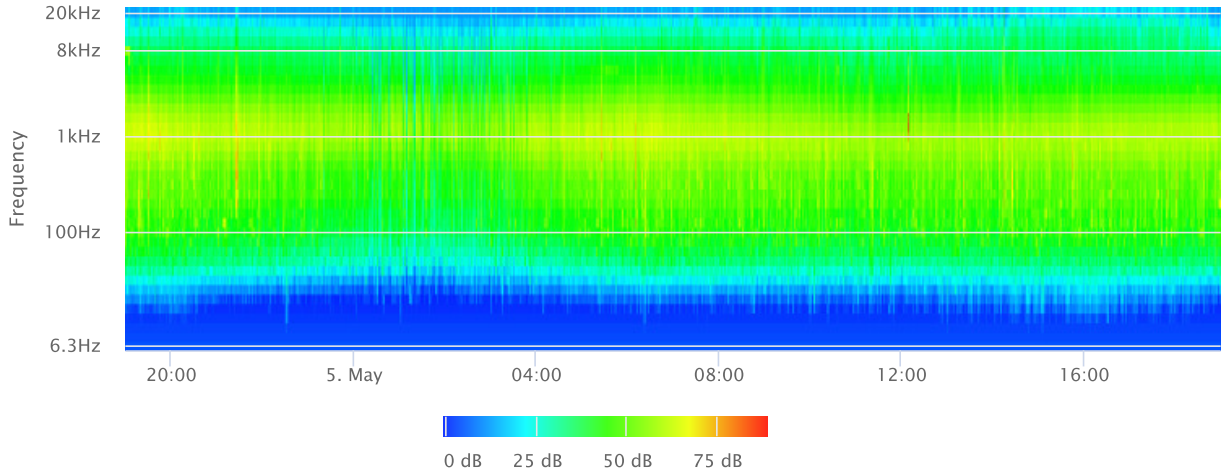
OBA 1/1 Lmin



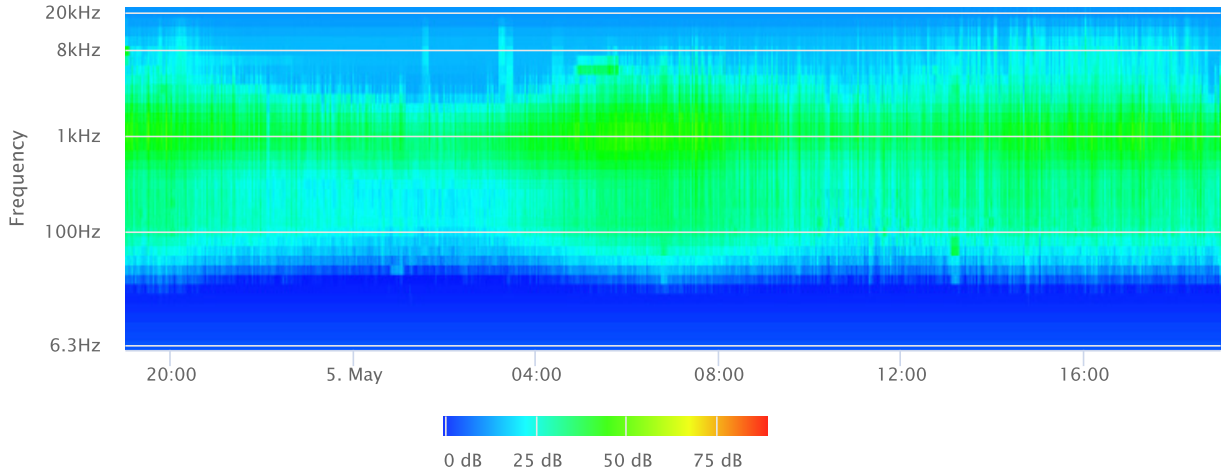
OBA 1/3 Leq



OBA 1/3 Lmax



OBA 1/3 Lmin


20kHz
8kHz
1kHz
100Hz
6.3Hz
Frequency
20:00
5. May
04:00
08:00
12:00
16:00
0 dB
25 dB
50 dB
75 dB

APPENDIX D

CONSTRUCTION NOISE CALCULATIONS

Receptor - Single-family Residential to Northwest (24907 Mauri Ct)

Construction Phase Equipment Item	# of Items	Item Lmax at 50 feet, dBA[1]	Distance to Receptor[3]	Item Usage Percent	Usage Factor	Dist. Correction dB	Usage Adj. dB	Receptor Item Lmax, dBA	Receptor Item Leq, dBA
Site Preparation									
Rubber Tired Dozers	1	82	467	40	0.40	-19.4	-4.0	62.6	58.6
Tractors/Loaders/Backhoes	1	84	467	40	0.40	-19.4	-4.0	64.6	60.6
								Log Sum	62.7
Grading									
Excavator	1	81	467	40	0.40	-19.4	-4.0	61.6	57.6
Rubber Tired Dozers	1	82	467	40	0.40	-19.4	-4.0	62.6	58.6
Tractors/Loaders/Backhoes	3	84	467	40	1.20	-19.4	0.8	64.6	65.4
Graders	1	85	467	40	0.40	-19.4	-4.0	65.6	61.6
								Log Sum	67.9
Building Construction									
Cranes	2	81	467	16	0.32	-19.4	-4.9	61.6	56.6
Forklifts[2]	3	48	467	40	1.20	-19.4	0.8	28.6	29.4
Generator Sets	1	81	467	50	0.50	-19.4	-3.0	61.6	58.6
Welders	2	74	467	40	0.80	-19.4	-1.0	54.6	53.6
Tractors/Loaders/Backhoes	4	84	467	40	1.60	-19.4	2.0	64.6	66.6
								Log Sum	67.8
Paving									
Cement and Mortar Mixers	2	79	467	40	0.80	-19.4	-1.0	59.6	58.6
Pavers	1	77	467	50	0.50	-19.4	-3.0	57.6	54.6
Paving Equipment	2	77	467	50	1.00	-19.4	0.0	57.6	57.6
Rollers	2	80	467	20	0.40	-19.4	-4.0	60.6	56.6
Tractors/Loaders/Backhoes	1	84	467	40	0.40	-19.4	-4.0	64.6	60.6
								Log Sum	65.1
Architectural Coating									
Air Compressors	1	78	467	40	0.40	-19.4	-4.0	58.6	54.6
								Log Sum	54.6

Notes:

(1) Source: Referenced noise levels from the Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual (September 2018) and the FHWA Roadway Construciton Noise Model User's Guide (January 2006)

(2) Source: SoundPLAN reference list.

(3) Distance to receptor calculated from center of site. Construction noise projected from the center of the project site to nearest sensitive use (property line).

Receptor - Single-family Residential to Northeast (24811 Benetta Ct)

Construction Phase Equipment Item	# of Items	Item Lmax at 50 feet, dBA[1]	Distance to Receptor[3]	Item Usage Percent	Usage Factor	Dist. Correction dB	Usage Adj. dB	Receptor Item Lmax, dBA	Receptor Item Leq, dBA
Site Preparation									
Rubber Tired Dozers	1	82	443	40	0.40	-18.9	-4.0	63.1	59.1
Tractors/Loaders/Backhoes	1	84	443	40	0.40	-18.9	-4.0	65.1	61.1
								Log Sum	63.2
Grading									
Excavator	1	81	443	40	0.40	-18.9	-4.0	62.1	58.1
Rubber Tired Dozers	1	82	443	40	0.40	-18.9	-4.0	63.1	59.1
Tractors/Loaders/Backhoes	3	84	443	40	1.20	-18.9	0.8	65.1	65.8
Graders	1	85	443	40	0.40	-18.9	-4.0	66.1	62.1
								Log Sum	68.4
Building Construction									
Cranes	2	81	443	16	0.32	-18.9	-4.9	62.1	57.1
Forklifts[2]	3	48	443	40	1.20	-18.9	0.8	29.1	29.8
Generator Sets	1	81	443	50	0.50	-18.9	-3.0	62.1	59.0
Welders	2	74	443	40	0.80	-18.9	-1.0	55.1	54.1
Tractors/Loaders/Backhoes	4	84	443	40	1.60	-18.9	2.0	65.1	67.1
								Log Sum	68.3
Paving									
Cement and Mortar Mixers	2	79	443	40	0.80	-18.9	-1.0	60.1	59.1
Pavers	1	77	443	50	0.50	-18.9	-3.0	58.1	55.0
Paving Equipment	2	77	443	50	1.00	-18.9	0.0	58.1	58.1
Rollers	2	80	443	20	0.40	-18.9	-4.0	61.1	57.1
Tractors/Loaders/Backhoes	1	84	443	40	0.40	-18.9	-4.0	65.1	61.1
								Log Sum	65.5
Architectural Coating									
Air Compressors	1	78	443	40	0.40	-18.9	-4.0	59.1	55.1
								Log Sum	55.1

Notes:

(1) Source: Referenced noise levels from the Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual (September 2018) and the FHWA Roadway Construciton Noise Model User's Guide (January 2006)

(2) Source: SoundPLAN reference list.

(3) Distance to receptor calculated from center of site. Construction noise projected from the center of the project site to nearest sensitive use (property line).

Receptor - Single-family Residential to East (25006 Crimson lasso Drive)

Construction Phase Equipment Item	# of Items	Item Lmax at 50 feet, dBA[1]	Distance to Receptor[3]	Item Usage Percent	Usage Factor	Dist. Correction dB	Usage Adj. dB	Receptor Item Lmax, dBA	Receptor Item Leq, dBA
Site Preparation									
Rubber Tired Dozers	1	82	861	40	0.40	-24.7	-4.0	57.3	53.3
Tractors/Loaders/Backhoes	1	84	861	40	0.40	-24.7	-4.0	59.3	55.3
								Log Sum	57.4
Grading									
Excavator	1	81	861	40	0.40	-24.7	-4.0	56.3	52.3
Rubber Tired Dozers	1	82	861	40	0.40	-24.7	-4.0	57.3	53.3
Tractors/Loaders/Backhoes	3	84	861	40	1.20	-24.7	0.8	59.3	60.1
Graders	1	85	861	40	0.40	-24.7	-4.0	60.3	56.3
								Log Sum	62.6
Building Construction									
Cranes	2	81	861	16	0.32	-24.7	-4.9	56.3	51.3
Forklifts[2]	3	48	861	40	1.20	-24.7	0.8	23.3	24.1
Generator Sets	1	81	861	50	0.50	-24.7	-3.0	56.3	53.3
Welders	2	74	861	40	0.80	-24.7	-1.0	49.3	48.3
Tractors/Loaders/Backhoes	4	84	861	40	1.60	-24.7	2.0	59.3	61.3
								Log Sum	62.5
Paving									
Cement and Mortar Mixers	2	79	861	40	0.80	-24.7	-1.0	54.3	53.3
Pavers	1	77	861	50	0.50	-24.7	-3.0	52.3	49.3
Paving Equipment	2	77	861	50	1.00	-24.7	0.0	52.3	52.3
Rollers	2	80	861	20	0.40	-24.7	-4.0	55.3	51.3
Tractors/Loaders/Backhoes	1	84	861	40	0.40	-24.7	-4.0	59.3	55.3
								Log Sum	59.7
Architectural Coating									
Air Compressors	1	78	861	40	0.40	-24.7	-4.0	53.3	49.3
								Log Sum	49.3

Notes:

(1) Source: Referenced noise levels from the Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual (September 2018) and the FHWA Roadway Construciton Noise Model User's Guide (January 2006)

(2) Source: SoundPLAN reference list.

(3) Distance to receptor calculated from center of site. Construction noise projected from the center of the project site to nearest sensitive use (property line).

Receptor - Single-family Residential to East (36035 Horseshoe Court)

Construction Phase Equipment Item	# of Items	Item Lmax at 50 feet, dBA[1]	Distance to Receptor[3]	Item Usage Percent	Usage Factor	Dist. Correction dB	Usage Adj. dB	Receptor Item Lmax, dBA	Receptor Item Leq, dBA
Site Preparation									
Rubber Tired Dozers	1	82	839	40	0.40	-24.5	-4.0	57.5	53.5
Tractors/Loaders/Backhoes	1	84	839	40	0.40	-24.5	-4.0	59.5	55.5
								Log Sum	57.6
Grading									
Excavator	1	81	839	40	0.40	-24.5	-4.0	56.5	52.5
Rubber Tired Dozers	1	82	839	40	0.40	-24.5	-4.0	57.5	53.5
Tractors/Loaders/Backhoes	3	84	839	40	1.20	-24.5	0.8	59.5	60.3
Graders	1	85	839	40	0.40	-24.5	-4.0	60.5	56.5
								Log Sum	62.8
Building Construction									
Cranes	2	81	839	16	0.32	-24.5	-4.9	56.5	51.6
Forklifts[2]	3	48	839	40	1.20	-24.5	0.8	23.5	24.3
Generator Sets	1	81	839	50	0.50	-24.5	-3.0	56.5	53.5
Welders	2	74	839	40	0.80	-24.5	-1.0	49.5	48.5
Tractors/Loaders/Backhoes	4	84	839	40	1.60	-24.5	2.0	59.5	61.5
								Log Sum	62.7
Paving									
Cement and Mortar Mixers	2	79	839	40	0.80	-24.5	-1.0	54.5	53.5
Pavers	1	77	839	50	0.50	-24.5	-3.0	52.5	49.5
Paving Equipment	2	77	839	50	1.00	-24.5	0.0	52.5	52.5
Rollers	2	80	839	20	0.40	-24.5	-4.0	55.5	51.5
Tractors/Loaders/Backhoes	1	84	839	40	0.40	-24.5	-4.0	59.5	55.5
								Log Sum	60.0
Architectural Coating									
Air Compressors	1	78	839	40	0.40	-24.5	-4.0	53.5	49.5
								Log Sum	49.5

Notes:

(1) Source: Referenced noise levels from the Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual (September 2018) and the FHWA Roadway Construciton Noise Model User's Guide (January 2006)

(2) Source: SoundPLAN reference list.

(3) Distance to receptor calculated from center of site. Construction noise projected from the center of the project site to nearest sensitive use (property line).

Receptor - Single-family Residential to East (36120 Jana Lane)

Construction Phase Equipment Item	# of Items	Item Lmax at 50 feet, dBA[1]	Distance to Receptor[3]	Item Usage Percent	Usage Factor	Dist. Correction dB	Usage Adj. dB	Receptor Item Lmax, dBA	Receptor Item Leq, dBA
Site Preparation									
Rubber Tired Dozers	1	82	266	40	0.40	-14.5	-4.0	67.5	63.5
Tractors/Loaders/Backhoes	1	84	266	40	0.40	-14.5	-4.0	69.5	65.5
								Log Sum	67.6
Grading									
Excavator	1	81	266	40	0.40	-14.5	-4.0	66.5	62.5
Rubber Tired Dozers	1	82	266	40	0.40	-14.5	-4.0	67.5	63.5
Tractors/Loaders/Backhoes	3	84	266	40	1.20	-14.5	0.8	69.5	70.3
Graders	1	85	266	40	0.40	-14.5	-4.0	70.5	66.5
								Log Sum	72.8
Building Construction									
Cranes	2	81	266	16	0.32	-14.5	-4.9	66.5	61.5
Forklifts[2]	3	48	266	40	1.20	-14.5	0.8	33.5	34.3
Generator Sets	1	81	266	50	0.50	-14.5	-3.0	66.5	63.5
Welders	2	74	266	40	0.80	-14.5	-1.0	59.5	58.5
Tractors/Loaders/Backhoes	4	84	266	40	1.60	-14.5	2.0	69.5	71.5
								Log Sum	72.7
Paving									
Cement and Mortar Mixers	2	79	266	40	0.80	-14.5	-1.0	64.5	63.5
Pavers	1	77	266	50	0.50	-14.5	-3.0	62.5	59.5
Paving Equipment	2	77	266	50	1.00	-14.5	0.0	62.5	62.5
Rollers	2	80	266	20	0.40	-14.5	-4.0	65.5	61.5
Tractors/Loaders/Backhoes	1	84	266	40	0.40	-14.5	-4.0	69.5	65.5
								Log Sum	69.9
Architectural Coating									
Air Compressors	1	78	266	40	0.40	-14.5	-4.0	63.5	59.5
								Log Sum	59.5

Notes:

(1) Source: Referenced noise levels from the Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual (September 2018) and the FHWA Roadway Construciton Noise Model User's Guide (January 2006)

(2) Source: SoundPLAN reference list.

(3) Distance to receptor calculated from center of site. Construction noise projected from the center of the project site to nearest sensitive use (property line).

Receptor - Single-family Residential to Southeast (36254 Jana Lane)

Construction Phase Equipment Item	# of Items	Item Lmax at 50 feet, dBA[1]	Distance to Receptor[3]	Item Usage Percent	Usage Factor	Dist. Correction dB	Usage Adj. dB	Receptor Item Lmax, dBA	Receptor Item Leq, dBA
Site Preparation									
Rubber Tired Dozers	1	82	984	40	0.40	-25.9	-4.0	56.1	52.1
Tractors/Loaders/Backhoes	1	84	984	40	0.40	-25.9	-4.0	58.1	54.1
								Log Sum	56.3
Grading									
Excavator	1	81	984	40	0.40	-25.9	-4.0	55.1	51.1
Rubber Tired Dozers	1	82	984	40	0.40	-25.9	-4.0	56.1	52.1
Tractors/Loaders/Backhoes	3	84	984	40	1.20	-25.9	0.8	58.1	58.9
Graders	1	85	984	40	0.40	-25.9	-4.0	59.1	55.1
								Log Sum	61.5
Building Construction									
Cranes	2	81	984	16	0.32	-25.9	-4.9	55.1	50.2
Forklifts[2]	3	48	984	40	1.20	-25.9	0.8	22.1	22.9
Generator Sets	1	81	984	50	0.50	-25.9	-3.0	55.1	52.1
Welders	2	74	984	40	0.80	-25.9	-1.0	48.1	47.2
Tractors/Loaders/Backhoes	4	84	984	40	1.60	-25.9	2.0	58.1	60.2
								Log Sum	61.3
Paving									
Cement and Mortar Mixers	2	79	984	40	0.80	-25.9	-1.0	53.1	52.2
Pavers	1	77	984	50	0.50	-25.9	-3.0	51.1	48.1
Paving Equipment	2	77	984	50	1.00	-25.9	0.0	51.1	51.1
Rollers	2	80	984	20	0.40	-25.9	-4.0	54.1	50.1
Tractors/Loaders/Backhoes	1	84	984	40	0.40	-25.9	-4.0	58.1	54.1
								Log Sum	58.6
Architectural Coating									
Air Compressors	1	78	984	40	0.40	-25.9	-4.0	52.1	48.1
								Log Sum	48.1

Notes:

(1) Source: Referenced noise levels from the Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual (September 2018) and the FHWA Roadway Construciton Noise Model User's Guide (January 2006)

(2) Source: SoundPLAN reference list.

(3) Distance to receptor calculated from center of site. Construction noise projected from the center of the project site to nearest sensitive use (property line).

APPENDIX E

FHWA WORKSHEETS

Existing Traffic Noise

1	:Id	
Clinton Keith Road	:Road	
West of I-15 Southbound Ramp	:Segment	

Vehicle Distribution (Heavy Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.54	14.02	10.43	92.00
Medium Trucks	48.00	2.00	50.00	3.00
Heavy Trucks	48.00	2.00	50.00	5.00

ADT	36108
Speed	35
Distance	76
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	2091.16	43.33	72.22	1552.45	7.22	12.04	384.98	60.18	100.30
Speed in MPH	35.00	35.00	35.00	35.00	35.00	35.00	35.00	35.00	35.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	65.11	74.83	80.05	65.11	74.83	80.05	65.11	74.83	80.05
ADJUSTMENTS									
Flow	27.46	10.62	12.84	26.16	2.84	5.06	20.11	12.05	14.27
Distance	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	65.68	58.56	66.00	64.39	50.78	58.22	58.33	59.99	67.42
	DAY LEQ	69.24		EVENING LEQ	65.47		NIGHT LEQ	68.58	

F	CNEL	75.13	
	DAY LEQ	69.24	

Day hour	89.00
Absorptive?	no
Use hour?	no
GRADE dB	0.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside heavy truck mix.

Existing Plus Project Traffic Noise

1	:Id
Clinton Keith Road	:Road
West of I-15 Southbound Ramp	:Segment

Vehicle Distribution (Heavy Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.54	14.02	10.43	92.00
Medium Trucks	48.00	2.00	50.00	3.00
Heavy Trucks	48.00	2.00	50.00	5.00

ADT	36588
Speed	35
Distance	76
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	2118.96	43.91	73.18	1573.09	7.32	12.20	390.09	60.98	101.63
Speed in MPH	35.00	35.00	35.00	35.00	35.00	35.00	35.00	35.00	35.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	65.11	74.83	80.05	65.11	74.83	80.05	65.11	74.83	80.05
ADJUSTMENTS									
Flow	27.51	10.68	12.90	26.22	2.90	5.12	20.17	12.11	14.32
Distance	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	65.74	58.62	66.05	64.44	50.84	58.27	58.39	60.05	67.48
	DAY LEQ	69.30		EVENING LEQ	65.53		NIGHT LEQ	68.63	

CNEL	75.19
DAY LEQ	69.30

Day hour	89.00
Absorptive?	no
Use hour?	no
GRADE dB	0.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside heavy truck mix.

Existing Traffic Noise

2	:Id	
Clinton Keith Road	:Road	
I-15 Southbound Ramp to I-15 Northbound Ramp	:Segment	

Vehicle Distribution (Heavy Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.54	14.02	10.43	92.00
Medium Trucks	48.00	2.00	50.00	3.00
Heavy Trucks	48.00	2.00	50.00	5.00

ADT	34848
Speed	35
Distance	76
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	2018.19	41.82	69.70	1498.28	6.97	11.62	371.54	58.08	96.80
Speed in MPH	35.00	35.00	35.00	35.00	35.00	35.00	35.00	35.00	35.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	65.11	74.83	80.05	65.11	74.83	80.05	65.11	74.83	80.05
ADJUSTMENTS									
Flow	27.30	10.47	12.69	26.01	2.69	4.90	19.95	11.89	14.11
Distance	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	65.52	58.41	65.84	64.23	50.63	58.06	58.17	59.83	67.27
	DAY LEQ	69.09		EVENING LEQ	65.32		NIGHT LEQ	68.42	

CNEL	74.98
DAY LEQ	69.09

Day hour	90.00
Absorptive?	no
Use hour?	no
GRADE dB	1.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside heavy truck mix.

Existing Plus Project Traffic Noise

2	:Id	
Clinton Keith Road	:Road	
I-15 Southbound Ramp to I-15 Northbound Ramp	:Segment	

Vehicle Distribution (Heavy Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.54	14.02	10.43	92.00
Medium Trucks	48.00	2.00	50.00	3.00
Heavy Trucks	48.00	2.00	50.00	5.00

ADT	35652
Speed	35
Distance	76
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	2064.75	42.78	71.30	1532.85	7.13	11.88	380.11	59.42	99.03
Speed in MPH	35.00	35.00	35.00	35.00	35.00	35.00	35.00	35.00	35.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	65.11	74.83	80.05	65.11	74.83	80.05	65.11	74.83	80.05
ADJUSTMENTS									
Flow	27.40	10.57	12.78	26.11	2.78	5.00	20.05	11.99	14.21
Distance	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	65.62	58.51	65.94	64.33	50.72	58.16	58.27	59.93	67.37
	DAY LEQ	69.18		EVENING LEQ	65.42		NIGHT LEQ	68.52	

CNEL	75.08
DAY LEQ	69.18

Day hour	90.00
Absorptive?	no
Use hour?	no
GRADE dB	1.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside heavy truck mix.

Existing Traffic Noise

3	:Id
Clinton Keith Road	:Road
I-15 Northbound Ramp to Wildomar Trail	:Segment

Vehicle Distribution (Heavy Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.54	14.02	10.43	92.00
Medium Trucks	48.00	2.00	50.00	3.00
Heavy Trucks	48.00	2.00	50.00	5.00

ADT	35112
Speed	35
Distance	76
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	2033.48	42.13	70.22	1509.63	7.02	11.70	374.36	58.52	97.53
Speed in MPH	35.00	35.00	35.00	35.00	35.00	35.00	35.00	35.00	35.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	65.11	74.83	80.05	65.11	74.83	80.05	65.11	74.83	80.05
ADJUSTMENTS									
Flow	27.34	10.50	12.72	26.04	2.72	4.94	19.99	11.93	14.15
Distance	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	65.56	58.44	65.88	64.26	50.66	58.09	58.21	59.87	67.30
	DAY LEQ	69.12		EVENING LEQ	65.35		NIGHT LEQ	68.45	

CNEL	75.01
DAY LEQ	69.12

Day hour	91.00
Absorptive?	no
Use hour?	no
GRADE dB	2.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside heavy truck mix.

Existing Plus Project Traffic Noise

3	:Id	
Clinton Keith Road	:Road	
I-15 Northbound Ramp to Wildomar Trail	:Segment	

Vehicle Distribution (Heavy Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.54	14.02	10.43	92.00
Medium Trucks	48.00	2.00	50.00	3.00
Heavy Trucks	48.00	2.00	50.00	5.00

ADT	36084
Speed	35
Distance	76
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	2089.77	43.30	72.17	1551.42	7.22	12.03	384.72	60.14	100.23
Speed in MPH	35.00	35.00	35.00	35.00	35.00	35.00	35.00	35.00	35.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	65.11	74.83	80.05	65.11	74.83	80.05	65.11	74.83	80.05
ADJUSTMENTS									
Flow	27.45	10.62	12.84	26.16	2.84	5.06	20.10	12.05	14.26
Distance	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	65.68	58.56	65.99	64.38	50.78	58.21	58.33	59.98	67.42
	DAY LEQ	69.24		EVENING LEQ	65.47		NIGHT LEQ	68.57	

CNEL	75.13
DAY LEQ	69.24

Day hour	91.00
Absorptive?	no
Use hour?	no
GRADE dB	2.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside heavy truck mix.

Existing Traffic Noise

4	:Id
Clinton Keith Road	:Road
Wildomar Trail to Inland Valley Drive	:Segment

Vehicle Distribution (Heavy Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.54	14.02	10.43	92.00
Medium Trucks	48.00	2.00	50.00	3.00
Heavy Trucks	48.00	2.00	50.00	5.00

ADT	28236
Speed	35
Distance	76
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	1635.26	33.88	56.47	1214.00	5.65	9.41	301.05	47.06	78.43
Speed in MPH	35.00	35.00	35.00	35.00	35.00	35.00	35.00	35.00	35.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	65.11	74.83	80.05	65.11	74.83	80.05	65.11	74.83	80.05
ADJUSTMENTS									
Flow	26.39	9.55	11.77	25.10	1.77	3.99	19.04	10.98	13.20
Distance	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	64.61	57.49	64.93	63.32	49.71	57.15	57.26	58.92	66.36
	DAY LEQ	68.17		EVENING LEQ	64.41		NIGHT LEQ	67.51	

CNEL	74.06
DAY LEQ	68.17

Day hour	92.00
Absorptive?	no
Use hour?	no
GRADE dB	3.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside heavy truck mix.

Existing Plus Project Traffic Noise

4	:Id
Clinton Keith Road	:Road
Wildomar Trail to Inland Valley Drive	:Segment

Vehicle Distribution (Heavy Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.54	14.02	10.43	92.00
Medium Trucks	48.00	2.00	50.00	3.00
Heavy Trucks	48.00	2.00	50.00	5.00

ADT	29376
Speed	35
Distance	76
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	1701.28	35.25	58.75	1263.01	5.88	9.79	313.20	48.96	81.60
Speed in MPH	35.00	35.00	35.00	35.00	35.00	35.00	35.00	35.00	35.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	65.11	74.83	80.05	65.11	74.83	80.05	65.11	74.83	80.05
ADJUSTMENTS									
Flow	26.56	9.73	11.94	25.27	1.94	4.16	19.21	11.15	13.37
Distance	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	64.78	57.66	65.10	63.49	49.88	57.32	57.43	59.09	66.53
	DAY LEQ	68.34		EVENING LEQ	64.58		NIGHT LEQ	67.68	

CNEL	74.24
DAY LEQ	68.34

Day hour	92.00
Absorptive?	no
Use hour?	no
GRADE dB	3.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside heavy truck mix.

Existing Traffic Noise

5	:Id
Clinton Keith Road	:Road
Inland Valley Drive to Salida Del Sol	:Segment

Vehicle Distribution (Heavy Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.54	14.02	10.43	92.00
Medium Trucks	48.00	2.00	50.00	3.00
Heavy Trucks	48.00	2.00	50.00	5.00

ADT	21156
Speed	45
Distance	76
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	1225.23	25.39	42.31	909.60	4.23	7.05	225.56	35.26	58.77
Speed in MPH	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	69.34	77.62	82.14	69.34	77.62	82.14	69.34	77.62	82.14
ADJUSTMENTS									
Flow	24.04	7.21	9.43	22.75	-0.57	1.65	16.69	8.63	10.85
Distance	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	66.50	57.94	64.68	65.21	50.16	56.90	59.15	59.37	66.11
	DAY LEQ	69.05		EVENING LEQ	65.92		NIGHT LEQ	67.61	

CNEL	**74.34**
DAY LEQ	69.05

Day hour	93.00
Absorptive?	no
Use hour?	no
GRADE dB	4.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside heavy truck mix.

Existing Plus Project Traffic Noise

5	:Id
Clinton Keith Road	:Road
Inland Valley Drive to Salida Del Sol	:Segment

Vehicle Distribution (Heavy Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.54	14.02	10.43	92.00
Medium Trucks	48.00	2.00	50.00	3.00
Heavy Trucks	48.00	2.00	50.00	5.00

ADT	22452
Speed	45
Distance	76
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	1300.29	26.94	44.90	965.32	4.49	7.48	239.38	37.42	62.37
Speed in MPH	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	69.34	77.62	82.14	69.34	77.62	82.14	69.34	77.62	82.14
ADJUSTMENTS									
Flow	24.30	7.47	9.68	23.01	-0.32	1.90	16.95	8.89	11.11
Distance	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	66.76	58.20	64.94	65.46	50.42	57.16	59.41	59.63	66.36
	DAY LEQ	69.30		EVENING LEQ	66.18		NIGHT LEQ	67.87	

CNEL	74.60
DAY LEQ	69.30

Day hour	93.00
Absorptive?	no
Use hour?	no
GRADE dB	4.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside heavy truck mix.

Existing Traffic Noise

6	:Id
Clinton Keith Road	:Road
Salida Del Sol to Elizabeth Lane	:Segment

Vehicle Distribution (Heavy Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.54	14.02	10.43	92.00
Medium Trucks	48.00	2.00	50.00	3.00
Heavy Trucks	48.00	2.00	50.00	5.00

ADT	21276
Speed	45
Distance	76
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	1232.18	25.53	42.55	914.75	4.26	7.09	226.84	35.46	59.10
Speed in MPH	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	69.34	77.62	82.14	69.34	77.62	82.14	69.34	77.62	82.14
ADJUSTMENTS									
Flow	24.07	7.23	9.45	22.78	-0.55	1.67	16.72	8.66	10.88
Distance	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	66.52	57.97	64.70	65.23	50.18	56.92	59.18	59.39	66.13
	DAY LEQ	69.07		EVENING LEQ	65.95		NIGHT LEQ	67.63	

CNEL	74.37
DAY LEQ	69.07

Day hour	94.00
Absorptive?	no
Use hour?	no
GRADE dB	5.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside heavy truck mix.

Existing Plus Project Traffic Noise

6	:Id
Clinton Keith Road	:Road
Salida Del Sol to Elizabeth Lane	:Segment

Vehicle Distribution (Heavy Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.54	14.02	10.43	92.00
Medium Trucks	48.00	2.00	50.00	3.00
Heavy Trucks	48.00	2.00	50.00	5.00

ADT	22704
Speed	45
Distance	76
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	1314.88	27.24	45.41	976.15	4.54	7.57	242.07	37.84	63.07
Speed in MPH	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	69.34	77.62	82.14	69.34	77.62	82.14	69.34	77.62	82.14
ADJUSTMENTS									
Flow	24.35	7.51	9.73	23.06	-0.27	1.95	17.00	8.94	11.16
Distance	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	66.81	58.25	64.99	65.51	50.47	57.21	59.46	59.68	66.41
	DAY LEQ	69.35		EVENING LEQ	66.23		NIGHT LEQ	67.92	

CNEL	74.65
DAY LEQ	69.35

Day hour	94.00
Absorptive?	no
Use hour?	no
GRADE dB	5.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside heavy truck mix.

Existing Traffic Noise

7	:Id	Vehicle Distribution (Heavy Truck Mix)				ADT	20280
Clinton Keith Road	:Road	Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow	Speed	45
East of Elizabeth Lane	:Segment	Automobiles	75.54	14.02	10.43	92.00	Distance	76
		Medium Trucks	48.00	2.00	50.00	3.00	Left Angle	-90
		Heavy Trucks	48.00	2.00	50.00	5.00	Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	1174.50	24.34	40.56	871.93	4.06	6.76	216.22	33.80	56.33
Speed in MPH	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	69.34	77.62	82.14	69.34	77.62	82.14	69.34	77.62	82.14
ADJUSTMENTS									
Flow	23.86	7.02	9.24	22.57	-0.76	1.46	16.51	8.45	10.67
Distance	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	66.32	57.76	64.50	65.02	49.98	56.71	58.97	59.18	65.92
	DAY LEQ	68.86		EVENING LEQ	65.74		NIGHT LEQ	67.43	

CNEL	74.16	Day hour	95.00
DAY LEQ	68.86	Absorptive?	no
		Use hour?	no
		GRADE dB	6.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside heavy truck mix.

Existing Plus Project Traffic Noise

7	:Id	
Clinton Keith Road	:Road	
East of Elizabeth Lane	:Segment	

Vehicle Distribution (Heavy Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.54	14.02	10.43	92.00
Medium Trucks	48.00	2.00	50.00	3.00
Heavy Trucks	48.00	2.00	50.00	5.00

ADT	21804
Speed	45
Distance	76
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	1262.76	26.16	43.61	937.46	4.36	7.27	232.47	36.34	60.57
Speed in MPH	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	69.34	77.62	82.14	69.34	77.62	82.14	69.34	77.62	82.14
ADJUSTMENTS									
Flow	24.18	7.34	9.56	22.88	-0.44	1.78	16.83	8.77	10.98
Distance	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	66.63	58.07	64.81	65.34	50.29	57.03	59.28	59.50	66.24
	DAY LEQ	69.18		EVENING LEQ	66.05		NIGHT LEQ	67.74	

CNEL	74.47
DAY LEQ	69.18

Day hour	95.00
Absorptive?	no
Use hour?	no
GRADE dB	6.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside heavy truck mix.

Existing Traffic Noise

8	:Id	Vehicle Distribution (Heavy Truck Mix)				ADT	20196
Clinton Keith Road	:Road	Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow	Speed	45
West of Jana Lane	:Segment	Automobiles	75.54	14.02	10.43	92.00	Distance	76
		Medium Trucks	48.00	2.00	50.00	3.00	Left Angle	-90
		Heavy Trucks	48.00	2.00	50.00	5.00	Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	1169.63	24.24	40.39	868.32	4.04	6.73	215.33	33.66	56.10
Speed in MPH	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	69.34	77.62	82.14	69.34	77.62	82.14	69.34	77.62	82.14
ADJUSTMENTS									
Flow	23.84	7.01	9.22	22.55	-0.78	1.44	16.49	8.43	10.65
Distance	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	66.30	57.74	64.48	65.00	49.96	56.70	58.95	59.17	65.90
	DAY LEQ	68.84		EVENING LEQ	65.72		NIGHT LEQ	67.41	

CNEL	74.14	Day hour	96.00
DAY LEQ	68.84	Absorptive?	no
		Use hour?	no
		GRADE dB	7.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside heavy truck mix.

Existing Plus Project Traffic Noise

8	:Id
Clinton Keith Road	:Road
West of Jana Lane	:Segment

Vehicle Distribution (Heavy Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.54	14.02	10.43	92.00
Medium Trucks	48.00	2.00	50.00	3.00
Heavy Trucks	48.00	2.00	50.00	5.00

ADT	23064
Speed	45
Distance	76
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	1335.73	27.68	46.13	991.63	4.61	7.69	245.90	38.44	64.07
Speed in MPH	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	69.34	77.62	82.14	69.34	77.62	82.14	69.34	77.62	82.14
ADJUSTMENTS									
Flow	24.42	7.58	9.80	23.13	-0.20	2.02	17.07	9.01	11.23
Distance	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	66.88	58.32	65.05	65.58	50.54	57.27	59.53	59.74	66.48
	DAY LEQ	69.42		EVENING LEQ	66.30		NIGHT LEQ	67.98	

CNEL	74.72
DAY LEQ	69.42

Day hour	96.00
Absorptive?	no
Use hour?	no
GRADE dB	7.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside heavy truck mix.

Existing Traffic Noise

9	:Id	Vehicle Distribution (Heavy Truck Mix)				ADT	20100
Clinton Keith Road	:Road	Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow	Speed	45
East of Jana Lane	:Segment	Automobiles	75.54	14.02	10.43	92.00	Distance	76
		Medium Trucks	48.00	2.00	50.00	3.00	Left Angle	-90
		Heavy Trucks	48.00	2.00	50.00	5.00	Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	1164.07	24.12	40.20	864.19	4.02	6.70	214.30	33.50	55.83
Speed in MPH	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	69.34	77.62	82.14	69.34	77.62	82.14	69.34	77.62	82.14
ADJUSTMENTS									
Flow	23.82	6.99	9.20	22.53	-0.80	1.42	16.47	8.41	10.63
Distance	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	66.28	57.72	64.46	64.98	49.94	56.68	58.93	59.15	65.88
	DAY LEQ	68.82		EVENING LEQ	65.70		NIGHT LEQ	67.39	

CNEL	74.12	Day hour	97.00
DAY LEQ	68.82	Absorptive?	no
		Use hour?	no
		GRADE dB	8.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside heavy truck mix.

Existing Plus Project Traffic Noise

9	:Id
Clinton Keith Road	:Road
East of Jana Lane	:Segment

Vehicle Distribution (Heavy Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.54	14.02	10.43	92.00
Medium Trucks	48.00	2.00	50.00	3.00
Heavy Trucks	48.00	2.00	50.00	5.00

ADT	23952
Speed	45
Distance	76
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	1387.16	28.74	47.90	1029.81	4.79	7.98	255.37	39.92	66.53
Speed in MPH	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	69.34	77.62	82.14	69.34	77.62	82.14	69.34	77.62	82.14
ADJUSTMENTS									
Flow	24.58	7.75	9.97	23.29	-0.03	2.18	17.23	9.17	11.39
Distance	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89	-1.89
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	67.04	58.48	65.22	65.75	50.70	57.44	59.69	59.91	66.65
	DAY LEQ	69.58		EVENING LEQ	66.46		NIGHT LEQ	68.15	

F	CNEL	74.88	
	DAY LEQ	69.58	

Day hour	97.00
Absorptive?	no
Use hour?	no
GRADE dB	8.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside heavy truck mix.

Existing Traffic Noise

10	:Id	
Clinton Keith Road	:Road	
West of Nutmeg Street	:Segment	

Vehicle Distribution (Heavy Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.54	14.02	10.43	92.00
Medium Trucks	48.00	2.00	50.00	3.00
Heavy Trucks	48.00	2.00	50.00	5.00

ADT	18492
Speed	45
Distance	55
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	1070.95	22.19	36.98	795.06	3.70	6.16	197.16	30.82	51.37
Speed in MPH	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	69.34	77.62	82.14	69.34	77.62	82.14	69.34	77.62	82.14
ADJUSTMENTS									
Flow	23.46	6.62	8.84	22.17	-1.16	1.06	16.11	8.05	10.27
Distance	-0.48	-0.48	-0.48	-0.48	-0.48	-0.48	-0.48	-0.48	-0.48
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	67.32	58.76	65.50	66.03	50.98	57.72	59.97	60.19	66.93
	DAY LEQ	69.87		EVENING LEQ	66.74		NIGHT LEQ	68.43	

CNEL	75.16
DAY LEQ	69.87

Day hour	98.00
Absorptive?	no
Use hour?	no
GRADE dB	9.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside heavy truck mix.

Existing Plus Project Traffic Noise

10	:Id
Clinton Keith Road	:Road
West of Nutmeg Street	:Segment

Vehicle Distribution (Heavy Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.54	14.02	10.43	92.00
Medium Trucks	48.00	2.00	50.00	3.00
Heavy Trucks	48.00	2.00	50.00	5.00

ADT	19284
Speed	45
Distance	55
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	1116.81	23.14	38.57	829.11	3.86	6.43	205.60	32.14	53.57
Speed in MPH	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	69.34	77.62	82.14	69.34	77.62	82.14	69.34	77.62	82.14
ADJUSTMENTS									
Flow	23.64	6.81	9.02	22.35	-0.98	1.24	16.29	8.23	10.45
Distance	-0.48	-0.48	-0.48	-0.48	-0.48	-0.48	-0.48	-0.48	-0.48
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	67.50	58.94	65.68	66.21	51.16	57.90	60.15	60.37	67.11
	DAY LEQ	70.05		EVENING LEQ	66.92		NIGHT LEQ	68.61	

CNEL	75.35
DAY LEQ	70.05

Day hour	98.00
Absorptive?	no
Use hour?	no
GRADE dB	9.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside heavy truck mix.

Existing Traffic Noise

11	:Id	
Clinton Keith Road	:Road	
East of Nutmeg Street	:Segment	

Vehicle Distribution (Heavy Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.54	14.02	10.43	92.00
Medium Trucks	48.00	2.00	50.00	3.00
Heavy Trucks	48.00	2.00	50.00	5.00

ADT	25668
Speed	45
Distance	55
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	1486.54	30.80	51.34	1103.59	5.13	8.56	273.67	42.78	71.30
Speed in MPH	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	69.34	77.62	82.14	69.34	77.62	82.14	69.34	77.62	82.14
ADJUSTMENTS									
Flow	24.88	8.05	10.27	23.59	0.27	2.48	17.53	9.47	11.69
Distance	-0.48	-0.48	-0.48	-0.48	-0.48	-0.48	-0.48	-0.48	-0.48
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	68.74	60.19	66.92	67.45	52.40	59.14	61.39	61.61	68.35
	DAY LEQ	71.29		EVENING LEQ	68.17		NIGHT LEQ	69.85	

CNEL	76.59
DAY LEQ	71.29

Day hour	99.00
Absorptive?	no
Use hour?	no
GRADE dB	10.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside heavy truck mix.

Existing Plus Project Traffic Noise

11	:Id
Clinton Keith Road	:Road
East of Nutmeg Street	:Segment

Vehicle Distribution (Heavy Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.54	14.02	10.43	92.00
Medium Trucks	48.00	2.00	50.00	3.00
Heavy Trucks	48.00	2.00	50.00	5.00

ADT	26148
Speed	45
Distance	55
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	1514.34	31.38	52.30	1124.22	5.23	8.72	278.78	43.58	72.63
Speed in MPH	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	69.34	77.62	82.14	69.34	77.62	82.14	69.34	77.62	82.14
ADJUSTMENTS									
Flow	24.96	8.13	10.35	23.67	0.35	2.57	17.61	9.55	11.77
Distance	-0.48	-0.48	-0.48	-0.48	-0.48	-0.48	-0.48	-0.48	-0.48
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	68.82	60.27	67.00	67.53	52.48	59.22	61.48	61.69	68.43
	DAY LEQ	71.37		EVENING LEQ	68.25		NIGHT LEQ	69.93	

CNEL	76.67
DAY LEQ	71.37

Day hour	99.00
Absorptive?	no
Use hour?	no
GRADE dB	10.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside heavy truck mix.

Existing Traffic Noise

12	:Id	
Wildomar Trail	:Road	
North of Clinton Keith Road	:Segment	

Vehicle Distribution (Light Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.56	13.96	10.49	97.40
Medium Trucks	48.91	2.17	48.91	1.84
Heavy Trucks	47.30	5.41	47.30	0.74

ADT	6036
Speed	40
Distance	50
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	370.19	4.53	1.76	273.57	0.80	0.81	68.52	6.04	2.35
Speed in MPH	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	67.36	76.31	81.16	67.36	76.31	81.16	67.36	76.31	81.16
ADJUSTMENTS									
Flow	19.36	0.23	-3.87	18.04	-7.28	-7.27	12.03	1.48	-2.62
Distance	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	61.65	51.47	52.22	60.33	43.97	48.82	54.32	52.72	53.47
	DAY LEQ	62.48		EVENING LEQ	60.72		NIGHT LEQ	58.33	

CNEL	65.91
DAY LEQ	62.48

Day hour	0.00
Absorptive?	no
Use hour?	no
GRADE dB	0.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside light truck mix.

Existing Plus Project Traffic Noise

12	:Id
Wildomar Trail	:Road
North of Clinton Keith Road	:Segment

Vehicle Distribution (Light Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.56	13.96	10.49	97.40
Medium Trucks	48.91	2.17	48.91	1.84
Heavy Trucks	47.30	5.41	47.30	0.74

ADT	6132
Speed	40
Distance	50
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	376.07	4.60	1.79	277.92	0.82	0.82	69.61	6.13	2.38
Speed in MPH	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	67.36	76.31	81.16	67.36	76.31	81.16	67.36	76.31	81.16
ADJUSTMENTS									
Flow	19.43	0.30	-3.80	18.11	-7.21	-7.20	12.10	1.55	-2.55
Distance	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	61.72	51.54	52.29	60.40	44.03	48.89	54.39	52.79	53.54
	DAY LEQ	62.54		EVENING LEQ	60.79		NIGHT LEQ	58.39	

CNEL	65.98
DAY LEQ	62.54

Day hour	0.00
Absorptive?	no
Use hour?	no
GRADE dB	0.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside light truck mix.

Existing Traffic Noise

13 :Id

Wildomar Trail :Road

South of Clinton Keith Road :Segment

Vehicle Distribution (Light Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.56	13.96	10.49	97.40
Medium Trucks	48.91	2.17	48.91	1.84
Heavy Trucks	47.30	5.41	47.30	0.74

ADT	4032
Speed	40
Distance	50
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	247.28	3.02	1.18	182.74	0.54	0.54	45.77	4.03	1.57
Speed in MPH	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	67.36	76.31	81.16	67.36	76.31	81.16	67.36	76.31	81.16
ADJUSTMENTS									
Flow	17.61	-1.52	-5.62	16.29	-9.03	-9.02	10.28	-0.27	-4.37
Distance	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	59.90	49.72	50.47	58.58	42.21	47.07	52.57	50.97	51.72
	DAY LEQ	60.72		EVENING LEQ	58.97		NIGHT LEQ	56.57	

CNEL	64.16
DAY LEQ	60.72

Day hour	0.00
Absorptive?	no
Use hour?	no
GRADE dB	0.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside light truck mix.

Existing Plus Project Traffic Noise

13	:Id
Wildomar Trail	:Road
South of Clinton Keith Road	:Segment

Vehicle Distribution (Light Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.56	13.96	10.49	97.40
Medium Trucks	48.91	2.17	48.91	1.84
Heavy Trucks	47.30	5.41	47.30	0.74

ADT	4104
Speed	40
Distance	50
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	251.70	3.08	1.20	186.01	0.55	0.55	46.59	4.10	1.60
Speed in MPH	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	67.36	76.31	81.16	67.36	76.31	81.16	67.36	76.31	81.16
ADJUSTMENTS									
Flow	17.68	-1.44	-5.55	16.37	-8.95	-8.94	10.36	-0.19	-4.30
Distance	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	59.97	49.80	50.54	58.66	42.29	47.15	52.65	51.05	51.79
	DAY LEQ	60.80		EVENING LEQ	59.05		NIGHT LEQ	56.65	

CNEL	64.24
DAY LEQ	60.80

Day hour	0.00
Absorptive?	no
Use hour?	no
GRADE dB	0.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside light truck mix.

Existing Traffic Noise

14	:Id
Inland Valley Drive	:Road
South of Clinton Keith Road	:Segment

Vehicle Distribution (Light Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.56	13.96	10.49	97.40
Medium Trucks	48.91	2.17	48.91	1.84
Heavy Trucks	47.30	5.41	47.30	0.74

ADT	9564
Speed	45
Distance	50
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	586.56	7.17	2.79	433.47	1.27	1.28	108.58	9.56	3.72
Speed in MPH	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	69.34	77.62	82.14	69.34	77.62	82.14	69.34	77.62	82.14
ADJUSTMENTS									
Flow	20.85	1.72	-2.38	19.53	-5.79	-5.78	13.52	2.97	-1.13
Distance	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	65.12	54.27	54.69	63.81	46.76	51.29	57.79	55.52	55.94
	DAY LEQ	65.81		EVENING LEQ	64.12		NIGHT LEQ	61.31	

CNEL	69.03
DAY LEQ	65.81

Day hour	0.00
Absorptive?	no
Use hour?	no
GRADE dB	0.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside light truck mix.

Existing Plus Project Traffic Noise

14	:Id	
Inland Valley Drive	:Road	
South of Clinton Keith Road	:Segment	

Vehicle Distribution (Light Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.56	13.96	10.49	97.40
Medium Trucks	48.91	2.17	48.91	1.84
Heavy Trucks	47.30	5.41	47.30	0.74

ADT	9720
Speed	45
Distance	50
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	596.12	7.29	2.84	440.54	1.29	1.30	110.35	9.72	3.78
Speed in MPH	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	69.34	77.62	82.14	69.34	77.62	82.14	69.34	77.62	82.14
ADJUSTMENTS									
Flow	20.92	1.79	-2.31	19.60	-5.72	-5.71	13.59	3.04	-1.06
Distance	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	65.19	54.34	54.76	63.88	46.83	51.36	57.86	55.59	56.01
	DAY LEQ	65.88		EVENING LEQ	64.19		NIGHT LEQ	61.38	

CNEL	**69.10**
DAY LEQ	65.88

Day hour	0.00
Absorptive?	no
Use hour?	no
GRADE dB	0.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside light truck mix.

Existing Traffic Noise

15	:Id	
Salida Del Sol	:Road	
North of Clinton Keith Road	:Segment	

Vehicle Distribution (Light Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.56	13.96	10.49	97.40
Medium Trucks	48.91	2.17	48.91	1.84
Heavy Trucks	47.30	5.41	47.30	0.74

ADT	480
Speed	25
Distance	37
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	29.44	0.36	0.14	21.76	0.06	0.06	5.45	0.48	0.19
Speed in MPH	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	59.44	71.09	77.24	59.44	71.09	77.24	59.44	71.09	77.24
ADJUSTMENTS									
Flow	10.40	-8.72	-12.82	9.09	-16.23	-16.22	3.08	-7.47	-11.57
Distance	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	46.08	38.60	40.65	44.77	31.09	37.26	38.76	39.85	41.90
	DAY LEQ	47.74		EVENING LEQ	45.63		NIGHT LEQ	45.14	

CNEL	52.22
DAY LEQ	47.74

Day hour	0.00
Absorptive?	no
Use hour?	no
GRADE dB	0.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside light truck mix.

Existing Plus Project Traffic Noise

15	:Id
Salida Del Sol	:Road
North of Clinton Keith Road	:Segment

Vehicle Distribution (Light Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.56	13.96	10.49	97.40
Medium Trucks	48.91	2.17	48.91	1.84
Heavy Trucks	47.30	5.41	47.30	0.74

ADT	612
Speed	25
Distance	37
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	37.53	0.46	0.18	27.74	0.08	0.08	6.95	0.61	0.24
Speed in MPH	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	59.44	71.09	77.24	59.44	71.09	77.24	59.44	71.09	77.24
ADJUSTMENTS									
Flow	11.46	-7.67	-11.77	10.15	-15.18	-15.16	4.13	-6.42	-10.52
Distance	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	47.14	39.66	41.71	45.82	32.15	38.31	39.81	40.91	42.96
	DAY LEQ	48.80		EVENING LEQ	46.69		NIGHT LEQ	46.20	

CNEL	53.27
DAY LEQ	48.80

Day hour	0.00
Absorptive?	no
Use hour?	no
GRADE dB	0.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside light truck mix.

Existing Traffic Noise

16	:Id
Elizabeth Lane	:Road
North of Clinton Keith Road	:Segment

Vehicle Distribution (Light Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.56	13.96	10.49	97.40
Medium Trucks	48.91	2.17	48.91	1.84
Heavy Trucks	47.30	5.41	47.30	0.74

ADT	1176
Speed	25
Distance	37
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	72.12	0.88	0.34	53.30	0.16	0.16	13.35	1.18	0.46
Speed in MPH	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	59.44	71.09	77.24	59.44	71.09	77.24	59.44	71.09	77.24
ADJUSTMENTS									
Flow	14.30	-4.83	-8.93	12.98	-12.34	-12.33	6.97	-3.58	-7.68
Distance	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	49.97	42.49	44.55	48.66	34.99	41.15	42.65	43.74	45.80
	DAY LEQ	51.63		EVENING LEQ	49.52		NIGHT LEQ	49.03	

CNEL	56.11
DAY LEQ	51.63

Day hour	0.00
Absorptive?	no
Use hour?	no
GRADE dB	0.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside light truck mix.

Existing Plus Project Traffic Noise

16	:Id	Vehicle Distribution (Light Truck Mix)				ADT	1272
Elizabeth Lane	:Road	Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow	Speed	25
North of Clinton Keith Road	:Segment	Automobiles	75.56	13.96	10.49	97.40	Distance	37
		Medium Trucks	48.91	2.17	48.91	1.84	Left Angle	-90
		Heavy Trucks	47.30	5.41	47.30	0.74	Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	78.01	0.95	0.37	57.65	0.17	0.17	14.44	1.27	0.49
Speed in MPH	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	59.44	71.09	77.24	59.44	71.09	77.24	59.44	71.09	77.24
ADJUSTMENTS									
Flow	14.64	-4.49	-8.59	13.32	-12.00	-11.99	7.31	-3.24	-7.34
Distance	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	50.31	42.83	44.89	49.00	35.33	41.49	42.99	44.08	46.14
	DAY LEQ	51.97		EVENING LEQ	49.87		NIGHT LEQ	49.37	

CNEL	56.45	Day hour	0.00
DAY LEQ	51.97	Absorptive?	no
		Use hour?	no
		GRADE dB	0.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside light truck mix.

Existing Traffic Noise

17	:Id	Vehicle Distribution (Light Truck Mix)				ADT	240
Jana Lane	:Road	Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow	Speed	25
South of Clinton Keith Road	:Segment	Automobiles	75.56	13.96	10.49	97.40	Distance	37
		Medium Trucks	48.91	2.17	48.91	1.84	Left Angle	-90
		Heavy Trucks	47.30	5.41	47.30	0.74	Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	14.72	0.18	0.07	10.88	0.03	0.03	2.72	0.24	0.09
Speed in MPH	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	59.44	71.09	77.24	59.44	71.09	77.24	59.44	71.09	77.24
ADJUSTMENTS									
Flow	7.39	-11.73	-15.83	6.08	-19.24	-19.23	0.07	-10.48	-14.58
Distance	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	43.07	35.59	37.64	41.76	28.08	34.25	35.75	36.84	38.89
	DAY LEQ	44.73		EVENING LEQ	42.62		NIGHT LEQ	42.13	

CNEL	49.21	Day hour	0.00
DAY LEQ	44.73	Absorptive?	no
		Use hour?	no
		GRADE dB	0.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside light truck mix.

Existing Plus Project Traffic Noise

17	:Id
Jana Lane	:Road
South of Clinton Keith Road	:Segment

Vehicle Distribution (Light Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.56	13.96	10.49	97.40
Medium Trucks	48.91	2.17	48.91	1.84
Heavy Trucks	47.30	5.41	47.30	0.74

ADT	1285
Speed	25
Distance	37
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	78.81	0.96	0.37	58.24	0.17	0.17	14.59	1.28	0.50
Speed in MPH	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	59.44	71.09	77.24	59.44	71.09	77.24	59.44	71.09	77.24
ADJUSTMENTS									
Flow	14.68	-4.45	-8.55	13.37	-11.95	-11.94	7.35	-3.20	-7.30
Distance	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	50.36	42.88	44.93	49.04	35.37	41.53	43.03	44.13	46.18
	DAY LEQ	52.02		EVENING LEQ	49.91		NIGHT LEQ	49.42	

CNEL	56.50
DAY LEQ	52.02

Day hour	0.00
Absorptive?	no
Use hour?	no
GRADE dB	0.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside light truck mix.

Existing Traffic Noise

18	:Id	
Nutmeg Street	:Road	
North of Clinton Keith Road	:Segment	

Vehicle Distribution (Light Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.56	13.96	10.49	97.40
Medium Trucks	48.91	2.17	48.91	1.84
Heavy Trucks	47.30	5.41	47.30	0.74

ADT	3444
Speed	40
Distance	33
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	211.22	2.58	1.00	156.09	0.46	0.46	39.10	3.44	1.34
Speed in MPH	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	67.36	76.31	81.16	67.36	76.31	81.16	67.36	76.31	81.16
ADJUSTMENTS									
Flow	16.92	-2.21	-6.31	15.61	-9.71	-9.70	9.60	-0.96	-5.06
Distance	1.73	1.73	1.73	1.73	1.73	1.73	1.73	1.73	1.73
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	61.02	50.84	51.59	59.70	43.33	48.19	53.69	52.09	52.84
	DAY LEQ	61.84		EVENING LEQ	60.09		NIGHT LEQ	57.69	

CNEL	65.28	Day hour	0.00
DAY LEQ	61.84	Absorptive?	no
		Use hour?	no
		GRADE dB	0.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside light truck mix.

Existing Plus Project Traffic Noise

18	:Id	Vehicle Distribution (Light Truck Mix)				ADT	3600
Nutmeg Street	:Road	Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow	Speed	40
North of Clinton Keith Road	:Segment	Automobiles	75.56	13.96	10.49	97.40	Distance	33
		Medium Trucks	48.91	2.17	48.91	1.84	Left Angle	-90
		Heavy Trucks	47.30	5.41	47.30	0.74	Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	220.79	2.70	1.05	163.16	0.48	0.48	40.87	3.60	1.40
Speed in MPH	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	67.36	76.31	81.16	67.36	76.31	81.16	67.36	76.31	81.16
ADJUSTMENTS									
Flow	17.11	-2.01	-6.11	15.80	-9.52	-9.51	9.79	-0.76	-4.86
Distance	1.73	1.73	1.73	1.73	1.73	1.73	1.73	1.73	1.73
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	61.21	51.03	51.78	59.89	43.53	48.38	53.88	52.28	53.03
	DAY LEQ	62.04		EVENING LEQ	60.28		NIGHT LEQ	57.89	

CNEL	65.47	Day hour	0.00
DAY LEQ	62.04	Absorptive?	no
		Use hour?	no
		GRADE dB	0.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside light truck mix.

Existing Traffic Noise

19	:Id	
Nutmeg Street	:Road	
South of Clinton Keith Road	:Segment	

Vehicle Distribution (Light Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.56	13.96	10.49	97.40
Medium Trucks	48.91	2.17	48.91	1.84
Heavy Trucks	47.30	5.41	47.30	0.74

ADT	9708
Speed	45
Distance	44
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	595.39	7.28	2.83	440.00	1.29	1.30	110.21	9.71	3.78
Speed in MPH	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	69.34	77.62	82.14	69.34	77.62	82.14	69.34	77.62	82.14
ADJUSTMENTS									
Flow	20.91	1.78	-2.32	19.60	-5.73	-5.71	13.58	3.03	-1.07
Distance	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	65.74	54.89	55.31	64.43	47.38	51.91	58.41	56.14	56.56
	DAY LEQ	66.43		EVENING LEQ	64.74		NIGHT LEQ	61.93	

CNEL	69.65
DAY LEQ	66.43

Day hour	0.00
Absorptive?	no
Use hour?	no
GRADE dB	0.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside light truck mix.

Existing Plus Project Traffic Noise

19	:Id
Nutmeg Street	:Road
South of Clinton Keith Road	:Segment

Vehicle Distribution (Light Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.56	13.96	10.49	97.40
Medium Trucks	48.91	2.17	48.91	1.84
Heavy Trucks	47.30	5.41	47.30	0.74

ADT	9864
Speed	45
Distance	44
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	604.95	7.40	2.88	447.07	1.31	1.32	111.98	9.86	3.84
Speed in MPH	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	69.34	77.62	82.14	69.34	77.62	82.14	69.34	77.62	82.14
ADJUSTMENTS									
Flow	20.98	1.85	-2.25	19.67	-5.66	-5.64	13.65	3.10	-1.00
Distance	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	65.81	54.96	55.38	64.50	47.45	51.98	58.48	56.21	56.63
	DAY LEQ	66.50		EVENING LEQ	64.81		NIGHT LEQ	61.99	

CNEL	69.72
DAY LEQ	66.50

Day hour	0.00
Absorptive?	no
Use hour?	no
GRADE dB	0.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside light truck mix.

APPENDIX F

SOUNDPLAN WORKSHEETS

Noise emissions of industry sources

Source name	Refere	Level	Frequency spectrum [dB(A)]																												Correctio		
			31	40	50	63	80	100	125	160	200	250	315	400	500	630	800	1	1.3	1.6	2	2.5	3.2	4	5	6.3	8	10	12.5	16	Cwa	CI	CT
		dB(A	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	kHz	kHz	kHz	kHz	kHz	kHz	kHz	kHz	kHz	kHz	kHz	kHz	kHz	dB	dB	dB
Que 1	Lw/m	Da 73.0																													-	-	-
Que 2	Lw/m	Da 73.0																													-	-	-
Que 3	Lw/m	Da 73.0																													-	-	-
Que 4	Lw/m	Da 73.0																													-	-	-
Service Window	Lw/unit	Da 50.0	-	-	-	-	-	-	-	-	-	-	-	-	50.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Speaker 1	Lw/unit	Da 70.0	-	-	-	-	-	-	-	-	-	-	-	-	70.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Service Window	Lw/unit	Da 70.0	-	-	-	-	-	-	-	-	-	-	-	-	70.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Speaker 2	Lw/unit	Da 70.0	-	-	-	-	-	-	-	-	-	-	-	-	70.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Service Window	Lw/unit	Da 70.0	-	-	-	-	-	-	-	-	-	-	-	-	70.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Speaker 3	Lw/unit	Da 70.0	-	-	-	-	-	-	-	-	-	-	-	-	70.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Car Wash Dryin	Lw/unit	Da 109	58	63	69	73	77	82	85	88	91	93	95	99	101	102	103	104	105	103	103	103	100	100	100	94	93	91	80	78	-	-	-
Vacuum 1	Lw/unit	Da 90.3	49	53	68	72	76	65	68	71	78	80	82	79	81.3	82.0	83.4	84.2	84.8	85.2	85.4	85.5	82.	81.9	81.5	74	73	71	63	61	-	-	-
Vacuum 2	Lw/unit	Da 90.3	49	53	68	72	76	65	68	71	78	80	82	79	81.3	82.0	83.4	84.2	84.8	85.2	85.4	85.5	82.	81.9	81.5	74	73	71	63	61	-	-	-
Vacuum 3	Lw/unit	Da 90.3	49	53	68	72	76	65	68	71	78	80	82	79	81.3	82.0	83.4	84.2	84.8	85.2	85.4	85.5	82.	81.9	81.5	74	73	71	63	61	-	-	-
Vacuum 4	Lw/unit	Da 90.3	49	53	68	72	76	65	68	71	78	80	82	79	81.3	82.0	83.4	84.2	84.8	85.2	85.4	85.5	82.	81.9	81.5	74	73	71	63	61	-	-	-
Vacuum 5	Lw/unit	Da 90.3	49	53	68	72	76	65	68	71	78	80	82	79	81.3	82.0	83.4	84.2	84.8	85.2	85.4	85.5	82.	81.9	81.5	74	73	71	63	61	-	-	-
Vacuum 6	Lw/unit	Da 90.3	49	53	68	72	76	65	68	71	78	80	82	79	81.3	82.0	83.4	84.2	84.8	85.2	85.4	85.5	82.	81.9	81.5	74	73	71	63	61	-	-	-
Vaccum 7	Lw/unit	Da 90.3	49	53	68	72	76	65	68	71	78	80	82	79	81.3	82.0	83.4	84.2	84.8	85.2	85.4	85.5	82.	81.9	81.5	74	73	71	63	61	-	-	-
HVAC 1	Lw/unit	Da 56.2	20	24	20	24	27	34	37	39	39	42	44	34	36.0	37.3	46.2	47.0	47.6	48.8	49.0	49.1	48.2	48.0	47.6	51	50	48	52	50	-	-	-
HVAC 2	Lw/unit	Da 56.2	20	24	20	24	27	34	37	39	39	42	44	34	36.0	37.3	46.2	47.0	47.6	48.8	49.0	49.1	48.2	48.0	47.6	51	50	48	52	50	-	-	-
HVAC 3	Lw/unit	Da 56.2	20	24	20	24	27	34	37	39	39	42	44	34	36.0	37.3	46.2	47.0	47.6	48.8	49.0	49.1	48.2	48.0	47.6	51	50	48	52	50	-	-	-
HVAC 4	Lw/unit	Da 56.2	20	24	20	24	27	34	37	39	39	42	44	34	36.0	37.3	46.2	47.0	47.6	48.8	49.0	49.1	48.2	48.0	47.6	51	50	48	52	50	-	-	-
HVAC 5	Lw/unit	Da 56.2	20	24	20	24	27	34	37	39	39	42	44	34	36.0	37.3	46.2	47.0	47.6	48.8	49.0	49.1	48.2	48.0	47.6	51	50	48	52	50	-	-	-
HVAC 6	Lw/unit	Da 56.2	20	24	20	24	27	34	37	39	39	42	44	34	36.0	37.3	46.2	47.0	47.6	48.8	49.0	49.1	48.2	48.0	47.6	51	50	48	52	50	-	-	-
HVAC 7	Lw/unit	Da 56.2	20	24	20	24	27	34	37	39	39	42	44	34	36.0	37.3	46.2	47.0	47.6	48.8	49.0	49.1	48.2	48.0	47.6	51	50	48	52	50	-	-	-
HVAC 8	Lw/unit	Da 56.2	20	24	20	24	27	34	37	39	39	42	44	34	36.0	37.3	46.2	47.0	47.6	48.8	49.0	49.1	48.2	48.0	47.6	51	50	48	52	50	-	-	-
HVAC 9	Lw/unit	Da 56.2	20	24	20	24	27	34	37	39	39	42	44	34	36.0	37.3	46.2	47.0	47.6	48.8	49.0	49.1	48.2	48.0	47.6	51	50	48	52	50	-	-	-
HVAC 10	Lw/unit	Da 56.2	20	24	20	24	27	34	37	39	39	42	44	34	36.0	37.3	46.2	47.0	47.6	48.8	49.0	49.1	48.2	48.0	47.6	51	50	48	52	50	-	-	-
HVAC 11	Lw/unit	Da 56.2	20	24	20	24	27	34	37	39	39	42	44	34	36.0	37.3	46.2	47.0	47.6	48.8	49.0	49.1	48.2	48.0	47.6	51	50	48	52	50	-	-	-
HVAC 12	Lw/unit	Da 56.2	20	24	20	24	27	34	37	39	39	42	44	34	36.0	37.3	46.2	47.0	47.6	48.8	49.0	49.1	48.2	48.0	47.6	51	50	48	52	50	-	-	-
HVAC 13	Lw/unit	Da 56.2	20	24	20	24	27	34	37	39	39	42	44	34	36.0	37.3	46.2	47.0	47.6	48.8	49.0	49.1	48.2	48.0	47.6	51	50	48	52	50	-	-	-
HVAC 14	Lw/unit	Da 56.2	20	24	20	24	27	34	37	39	39	42	44	34	36.0	37.3	46.2	47.0	47.6	48.8	49.0	49.1	48.2	48.0	47.6	51	50	48	52	50	-	-	-
HVAC 15	Lw/unit	Da 56.2	20	24	20	24	27	34	37	39	39	42	44	34	36.0	37.3	46.2	47.0	47.6	48.8	49.0	49.1	48.2	48.0	47.6	51	50	48	52	50	-	-	-
HVAC 16	Lw/unit	Da 56.2	20	24	20	24	27	34	37	39	39	42	44	34	36.0	37.3	46.2	47.0	47.6	48.8	49.0	49.1	48.2	48.0	47.6	51	50	48	52	50	-	-	-
HVAC 17	Lw/unit	Da 56.2	20	24	20	24	27	34	37	39	39	42	44	34	36.0	37.3	46.2	47.0	47.6	48.8	49.0	49.1	48.2	48.0	47.6	51	50	48	52	50	-	-	-
HVAC 18	Lw/unit	Da 56.2	20	24	20	24	27	34	37	39	39	42	44	34	36.0	37.3	46.2	47.0	47.6	48.8	49.0	49.1	48.2	48.0	47.6	51	50	48	52	50	-	-	-
HVAC 19	Lw/unit	Da 56.2	20	24	20	24	27	34	37	39	39	42	44	34	36.0	37.3	46.2	47.0	47.6	48.8	49.0	49.1	48.2	48.0	47.6	51	50	48	52	50	-	-	-
HVAC 20	Lw/unit	Da 56.2	20	24	20	24	27	34	37	39	39	42	44	34	36.0	37.3	46.2	47.0	47.6	48.8	49.0	49.1	48.2	48.0	47.6	51	50	48	52	50	-	-	-
Fueling Area1	Lw/m²	Da 65.0	-	-	-	-	-	-	-	-	-	-	-	-	65.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Noise emissions of parking lot traffic

Name	Parking bays	Movements			Corrections		Level	
		Day	Evening	Night	Parking lot type	dB(A)	Day dB(A)	Evening dB(A)
Parking 1	5.0	2.800	0.000	0.000		0.0	48.5	0.0
Parking 2	11.0	2.800	0.000	0.000		0.0	51.9	0.0
Parking 3	21.0	2.800	0.000	0.000		0.0	54.7	0.0
Parking 4	6.0	2.800	0.000	0.000		0.0	49.3	0.0
Parking 5	5.0	2.800	0.000	0.000		0.0	48.5	0.0
Parking 6	8.0	2.800	0.000	0.000		0.0	50.5	0.0
Parking 7	8.0	2.800	0.000	0.000		0.0	50.5	0.0
Parking 8	4.0	2.800	0.000	0.000		0.0	47.5	0.0
Parking 9	7.0	2.800	0.000	0.000		0.0	49.9	0.0
Parking 10	8.0	2.800	0.000	0.000		0.0	50.5	0.0
Parking 11	14.0	2.800	0.000	0.000		0.0	52.9	0.0
Parking 12	7.0	2.800	0.000	0.000		0.0	49.9	0.0
Parking 13	13.0	2.800	0.000	0.000		0.0	52.6	0.0
Parking 14	9.0	2.800	0.000	0.000		0.0	51.0	0.0
Parking 15	10.0	2.800	0.000	0.000		0.0	51.5	0.0
Parking 16	6.0	2.800	0.000	0.000		0.0	49.3	0.0

Receiver list

No.	Receiver name	Building side	Floor	Limit Day dB(A)	Level Day dB(A)	Conflict Day dB
1	Receiver 2	-	EG	-	52.7	-
2		-	EG	-	39.4	-
			1.OG	-	39.7	-
3	Receiver 3	-	EG	-	49.1	-
			1.OG	-	49.6	-
4	Receiver 4	-	EG	-	45.7	-
			1.OG	-	45.8	-
5	Receiver 5	-	EG	-	46.5	-
			1.OG	-	46.6	-
6	Receiver 6	-	EG	-	48.5	-
			1.OG	-	49.0	-
7	Receiver 7	-	EG	-	48.5	-
			1.OG	-	49.0	-
8	Receiver 8	-	EG	-	63.9	-
9	Receiver 9	-	EG	-	65.2	-

Noise emissions of industry sources

Source name	Referen		Level	Frequency spectrum [dB(A)]																											Correctio		
				31	40	50	63	80	100	125	160	200	250	315	400	500	630	800	1	1.3	1.6	2	2.5	3.2	4	5	6.3	8	10	12.5	16	Cwa	Cl	CT
			dB(A	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	kHz	kHz	kHz	kHz	kHz	kHz	kHz	kHz	kHz	kHz	kHz	kHz	kHz	dB	dB	dB
Que 1	Lw/m	Da	73.0																												-	-	-
Que 2	Lw/m	Da	73.0																												-	-	-
Que 3	Lw/m	Da	73.0																												-	-	-
Que 4	Lw/m	Da	73.0																												-	-	-
Service Wind	Lw/unit	Da	50.0	-	-	-	-	-	-	-	-	-	-	-	-	50.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Speaker 1	Lw/unit	Da	70.0	-	-	-	-	-	-	-	-	-	-	-	-	70.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Service Wind	Lw/unit	Da	70.0	-	-	-	-	-	-	-	-	-	-	-	-	70.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Speaker 2	Lw/unit	Da	70.0	-	-	-	-	-	-	-	-	-	-	-	-	70.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Service Wind	Lw/unit	Da	70.0	-	-	-	-	-	-	-	-	-	-	-	-	70.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Speaker 3	Lw/unit	Da	70.0	-	-	-	-	-	-	-	-	-	-	-	-	70.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HVAC 1	Lw/unit	Da	56.2	20.	24.	20.	24.	27.	34.	37.	39.	39.	42.	44.	34.	36.	37.	46.	47.	47.	48.	49.	49.	48.	48.	47.	51.	50.	48.	52.	50.	-	-	-
HVAC 2	Lw/unit	Da	56.2	20.	24.	20.	24.	27.	34.	37.	39.	39.	42.	44.	34.	36.	37.	46.	47.	47.	48.	49.	49.	48.	48.	47.	51.	50.	48.	52.	50.	-	-	-
HVAC 3	Lw/unit	Da	56.2	20.	24.	20.	24.	27.	34.	37.	39.	39.	42.	44.	34.	36.	37.	46.	47.	47.	48.	49.	49.	48.	48.	47.	51.	50.	48.	52.	50.	-	-	-
HVAC 4	Lw/unit	Da	56.2	20.	24.	20.	24.	27.	34.	37.	39.	39.	42.	44.	34.	36.	37.	46.	47.	47.	48.	49.	49.	48.	48.	47.	51.	50.	48.	52.	50.	-	-	-
HVAC 5	Lw/unit	Da	56.2	20.	24.	20.	24.	27.	34.	37.	39.	39.	42.	44.	34.	36.	37.	46.	47.	47.	48.	49.	49.	48.	48.	47.	51.	50.	48.	52.	50.	-	-	-
HVAC 6	Lw/unit	Da	56.2	20.	24.	20.	24.	27.	34.	37.	39.	39.	42.	44.	34.	36.	37.	46.	47.	47.	48.	49.	49.	48.	48.	47.	51.	50.	48.	52.	50.	-	-	-
HVAC 7	Lw/unit	Da	56.2	20.	24.	20.	24.	27.	34.	37.	39.	39.	42.	44.	34.	36.	37.	46.	47.	47.	48.	49.	49.	48.	48.	47.	51.	50.	48.	52.	50.	-	-	-
HVAC 8	Lw/unit	Da	56.2	20.	24.	20.	24.	27.	34.	37.	39.	39.	42.	44.	34.	36.	37.	46.	47.	47.	48.	49.	49.	48.	48.	47.	51.	50.	48.	52.	50.	-	-	-
HVAC 9	Lw/unit	Da	56.2	20.	24.	20.	24.	27.	34.	37.	39.	39.	42.	44.	34.	36.	37.	46.	47.	47.	48.	49.	49.	48.	48.	47.	51.	50.	48.	52.	50.	-	-	-
HVAC 10	Lw/unit	Da	56.2	20.	24.	20.	24.	27.	34.	37.	39.	39.	42.	44.	34.	36.	37.	46.	47.	47.	48.	49.	49.	48.	48.	47.	51.	50.	48.	52.	50.	-	-	-
HVAC 11	Lw/unit	Da	56.2	20.	24.	20.	24.	27.	34.	37.	39.	39.	42.	44.	34.	36.	37.	46.	47.	47.	48.	49.	49.	48.	48.	47.	51.	50.	48.	52.	50.	-	-	-
HVAC 12	Lw/unit	Da	56.2	20.	24.	20.	24.	27.	34.	37.	39.	39.	42.	44.	34.	36.	37.	46.	47.	47.	48.	49.	49.	48.	48.	47.	51.	50.	48.	52.	50.	-	-	-
HVAC 13	Lw/unit	Da	56.2	20.	24.	20.	24.	27.	34.	37.	39.	39.	42.	44.	34.	36.	37.	46.	47.	47.	48.	49.	49.	48.	48.	47.	51.	50.	48.	52.	50.	-	-	-
HVAC 14	Lw/unit	Da	56.2	20.	24.	20.	24.	27.	34.	37.	39.	39.	42.	44.	34.	36.	37.	46.	47.	47.	48.	49.	49.	48.	48.	47.	51.	50.	48.	52.	50.	-	-	-
HVAC 15	Lw/unit	Da	56.2	20.	24.	20.	24.	27.	34.	37.	39.	39.	42.	44.	34.	36.	37.	46.	47.	47.	48.	49.	49.	48.	48.	47.	51.	50.	48.	52.	50.	-	-	-
HVAC 16	Lw/unit	Da	56.2	20.	24.	20.	24.	27.	34.	37.	39.	39.	42.	44.	34.	36.	37.	46.	47.	47.	48.	49.	49.	48.	48.	47.	51.	50.	48.	52.	50.	-	-	-
HVAC 17	Lw/unit	Da	56.2	20.	24.	20.	24.	27.	34.	37.	39.	39.	42.	44.	34.	36.	37.	46.	47.	47.	48.	49.	49.	48.	48.	47.	51.	50.	48.	52.	50.	-	-	-
HVAC 18	Lw/unit	Da	56.2	20.	24.	20.	24.	27.	34.	37.	39.	39.	42.	44.	34.	36.	37.	46.	47.	47.	48.	49.	49.	48.	48.	47.	51.	50.	48.	52.	50.	-	-	-
HVAC 19	Lw/unit	Da	56.2	20.	24.	20.	24.	27.	34.	37.	39.	39.	42.	44.	34.	36.	37.	46.	47.	47.	48.	49.	49.	48.	48.	47.	51.	50.	48.	52.	50.	-	-	-
HVAC 20	Lw/unit	Da	56.2	20.	24.	20.	24.	27.	34.	37.	39.	39.	42.	44.	34.	36.	37.	46.	47.	47.	48.	49.	49.	48.	48.	47.	51.	50.	48.	52.	50.	-	-	-
Fueling Area	Lw/m²	Da	65.0	-	-	-	-	-	-	-	-	-	-	-	-	65.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Noise emissions of parking lot traffic

Name	Parking bays	Movements			Corrections		Level	
		Day	Evening	Night	Parking lot type	dB(A)	Day dB(A)	Evening dB(A)
Parking 1	5.0	1.400	0.000	0.000		0.0	45.5	0.0
Parking 2	11.0	1.400	0.000	0.000		0.0	48.9	0.0
Parking 3	21.0	1.400	0.000	0.000		0.0	51.7	0.0
Parking 4	6.0	1.400	0.000	0.000		0.0	46.2	0.0
Parking 5	5.0	1.400	0.000	0.000		0.0	45.5	0.0
Parking 6	8.0	1.400	0.000	0.000		0.0	47.5	0.0
Parking 7	8.0	1.400	0.000	0.000		0.0	47.5	0.0
Parking 8	4.0	1.400	0.000	0.000		0.0	44.5	0.0
Parking 9	7.0	1.400	0.000	0.000		0.0	46.9	0.0
Parking 10	8.0	1.400	0.000	0.000		0.0	47.5	0.0
Parking 11	14.0	1.400	0.000	0.000		0.0	49.9	0.0
Parking 12	7.0	1.400	0.000	0.000		0.0	46.9	0.0
Parking 13	13.0	1.400	0.000	0.000		0.0	49.6	0.0
Parking 14	9.0	0.930	0.000	0.000		0.0	46.2	0.0
Parking 15	10.0	0.930	0.000	0.000		0.0	46.7	0.0
Parking 16	6.0	0.930	0.000	0.000		0.0	44.5	0.0

Receiver list

No.	Receiver name	Building side	Floor	Limit Day dB(A)	Level Day dB(A)	Conflict Day dB
1	Receiver 2	-	EG	-	48.5	-
2		-	EG	-	35.1	-
			1.OG	-	35.4	-
3	Receiver 3	-	EG	-	46.1	-
			1.OG	-	46.7	-
4	Receiver 4	-	EG	-	42.5	-
			1.OG	-	42.9	-
5	Receiver 5	-	EG	-	38.2	-
			1.OG	-	38.4	-
6	Receiver 6	-	EG	-	46.3	-
			1.OG	-	47.0	-
7	Receiver 7	-	EG	-	46.1	-
			1.OG	-	46.7	-
8	Receiver 8	-	EG	-	51.7	-
9	Receiver 9	-	EG	-	59.5	-

APPENDIX G

VIBRATION WORKSHEETS

GROUNDBORNE VIBRATION ANALYSIS

Project:	19510 Beyond Food Mart (Clinton Keith Road & Jana Lane)	Date:	4/27/22
Source:	Vibratory Roller		
Scenario:	Unmitigated		
Location:	Residential to the North		
Address:			

PPV = PPVref(25/D)^n (in/sec)

INPUT

Equipment Type =	1	Vibratory Roller	INPUT SECTION IN GREEN
PPVref =	0.21	Reference PPV (in/sec) at 25 ft.	
D =	145.00	Distance from Equipment to Receiver (ft)	
n =	1.50	Vibration attenuation rate through the ground	

Note: Based on reference equations from Vibration Guidance Manual, California Department of Transportation, 2006, pgs 38-43.

RESULTS

PPV =	0.015	IN/SEC	OUTPUT IN BLUE

GROUNDBORNE VIBRATION ANALYSIS

Project:	19510 Beyond Food Mart (Clinton Keith Road & Jana Lan	Date:	4/27/22
Source:	Large Bulldozer		
Scenario:	Unmitigated		
Location:	Residential to the North		
Address:			

PPV = PPVref(25/D)^n (in/sec)

INPUT

Equipment Type	2	Large Bulldozer	INPUT SECTION IN GREEN
PPVref =	0.089	Reference PPV (in/sec) at 25 ft.	
D =	145.00	Distance from Equipment to Receiver (ft)	
n =	1.50	Vibration attenuation rate through the ground	

Note: Based on reference equations from Vibration Guidance Manual, California Department of Transportation, 2006, pgs 38-43.

RESULTS

PPV =	0.006	IN/SEC	OUTPUT IN BLUE

GROUNDBORNE VIBRATION ANALYSIS

Project:	19510 Beyond Food Mart (Clinton Keith Road & Jana Lane)	Date:	4/27/22
Source:	Vibratory Roller		
Scenario:	Unmitigated		
Location:	Commercial to East		
Address:			

PPV = PPVref(25/D)^n (in/sec)

INPUT

Equipment Type =	1	Vibratory Roller	INPUT SECTION IN GREEN
PPVref =	0.21	Reference PPV (in/sec) at 25 ft.	
D =	91.00	Distance from Equipment to Receiver (ft)	
n =	1.50	Vibration attenuation rate through the ground	

Note: Based on reference equations from Vibration Guidance Manual, California Department of Transportation, 2006, pgs 38-43.

RESULTS

PPV =	0.030	IN/SEC	OUTPUT IN BLUE

GROUNDBORNE VIBRATION ANALYSIS

Project:	19510 Beyond Food Mart (Clinton Keith Road & Jana Lan	Date:	4/27/22
Source:	Large Bulldozer		
Scenario:	Unmitigated		
Location:	Commercial to East		
Address:			

PPV = PPVref(25/D)^n (in/sec)

INPUT

Equipment Type	2	Large Bulldozer	INPUT SECTION IN GREEN
PPVref =	0.089	Reference PPV (in/sec) at 25 ft.	
D =	91.00	Distance from Equipment to Receiver (ft)	
n =	1.50	Vibration attenuation rate through the ground	

Note: Based on reference equations from Vibration Guidance Manual, California Department of Transportation, 2006, pgs 38-43.

RESULTS

PPV =	0.013	IN/SEC	OUTPUT IN BLUE

GROUNDBORNE VIBRATION ANALYSIS

Project:	19510 Beyond Food Mart (Clinton Keith Road & Jana Lane)	Date:	4/27/22
Source:	Vibratory Roller		
Scenario:	Unmitigated		
Location:	Commercial to South		
Address:			

PPV = PPVref(25/D)^n (in/sec)

INPUT

Equipment Type	1	Vibratory Roller	INPUT SECTION IN GREEN
PPVref =	0.21	Reference PPV (in/sec) at 25 ft.	
D =	3.00	Distance from Equipment to Receiver (ft)	
n =	1.50	Vibration attenuation rate through the ground	

Note: Based on reference equations from Vibration Guidance Manual, California Department of Transportation, 2006, pgs 38-43.

RESULTS

PPV =	5.052	IN/SEC	OUTPUT IN BLUE

GROUNDBORNE VIBRATION ANALYSIS

Project:	19510 Beyond Food Mart (Clinton Keith Road & Jana Lan	Date:	4/27/22
Source:	Large Bulldozer		
Scenario:	Unmitigated		
Location:	Commercial to South		
Address:			

PPV = PPVref(25/D)^n (in/sec)

INPUT

Equipment Type	2	Large Bulldozer	INPUT SECTION IN GREEN
PPVref =	0.089	Reference PPV (in/sec) at 25 ft.	
D =	3.00	Distance from Equipment to Receiver (ft)	
n =	1.50	Vibration attenuation rate through the ground	

Note: Based on reference equations from Vibration Guidance Manual, California Department of Transportation, 2006, pgs 38-43.

RESULTS

PPV =	2.141	IN/SEC	OUTPUT IN BLUE

GROUNDBORNE VIBRATION ANALYSIS

Project:	19510 Beyond Food Mart (Clinton Keith Road & Jana Lane)	Date:	4/27/22
Source:	Vibratory Roller		
Scenario:	Unmitigated		
Location:	Commercial to West		
Address:			

PPV = PPVref(25/D)^n (in/sec)

INPUT

Equipment Type	1	Vibratory Roller	INPUT SECTION IN GREEN
PPVref =	0.21	Reference PPV (in/sec) at 25 ft.	
D =	1.00	Distance from Equipment to Receiver (ft)	
n =	1.50	Vibration attenuation rate through the ground	

Note: Based on reference equations from Vibration Guidance Manual, California Department of Transportation, 2006, pgs 38-43.

RESULTS

PPV =	26.250	IN/SEC	OUTPUT IN BLUE

GROUNDBORNE VIBRATION ANALYSIS			
Project:	19510 Beyond Food Mart (Clinton Keith Road & Jana Lan	Date:	4/27/22
Source:	Large Bulldozer		
Scenario:	Unmitigated		
Location:	Commercial to West		
Address:			
PPV = PPVref(25/D)^n (in/sec)			
INPUT			
Equipment = Type	2	Large Bulldozer	INPUT SECTION IN GREEN
PPVref =	0.089	Reference PPV (in/sec) at 25 ft.	
D =	1.00	Distance from Equipment to Receiver (ft)	
n =	1.50	Vibration attenuation rate through the ground	
Note: Based on reference equations from Vibration Guidance Manual, California Department of Transportation, 2006, pgs 38-43.			
RESULTS			
PPV =	11.125	IN/SEC	OUTPUT IN BLUE

GROUNDBORNE VIBRATION ANALYSIS

Project:	19510 Beyond Food Mart (Clinton Keith Road & Jana Lan	Date:	4/27/22
Source:	Vibratory Roller		
Scenario:	Mitigated		
Location:	Commercial Uses to South & West		
Address:			

PPV = PPVref(25/D)^n (in/sec)

INPUT

Equipment Type	1	Vibratory Roller	INPUT SECTION IN GREEN
PPVref =	0.21	Reference PPV (in/sec) at 25 ft.	
D =	15.00	Distance from Equipment to Receiver (ft)	
n =	1.50	Vibration attenuation rate through the ground	

Note: Based on reference equations from Vibration Guidance Manual, California Department of Transportation, 2006, pgs 38-43.

RESULTS

PPV =	0.452	IN/SEC	OUTPUT IN BLUE

GROUNDBORNE VIBRATION ANALYSIS

Project:	19510 Beyond Food Mart (Clinton Keith Road & Jana Lan	Date:	4/27/22
Source:	Large Bulldozer		
Scenario:	Mitigated		
Location:	Commercial Uses to South & West		
Address:			

PPV = PPVref(25/D)^n (in/sec)

INPUT

Equipment Type	2	Large Bulldozer	INPUT SECTION IN GREEN
PPVref =	0.089	Reference PPV (in/sec) at 25 ft.	
D =	8.00	Distance from Equipment to Receiver (ft)	
n =	1.50	Vibration attenuation rate through the ground	

Note: Based on reference equations from Vibration Guidance Manual, California Department of Transportation, 2006, pgs 38-43.

RESULTS

PPV =	0.492	IN/SEC	OUTPUT IN BLUE

GROUNDBORNE VIBRATION ANALYSIS			
Project:	19510 Beyond Food Mart (Clinton Keith Road & Jana Lan	Date:	4/27/22
Source:	Vibratory Roller		
Scenario:	Unmitigated		
Location:	Annoyance Threshold		
Address:			
PPV = PPVref(25/D)^n (in/sec)			
INPUT			
Equipment = Type	1	Vibratory Roller	INPUT SECTION IN GREEN
PPVref =	0.21	Reference PPV (in/sec) at 25 ft.	
D =	41.00	Distance from Equipment to Receiver (ft)	
n =	1.50	Vibration attenuation rate through the ground	
Note: Based on reference equations from Vibration Guidance Manual, California Department of Transportation, 2006, pgs 38-43.			
RESULTS			
PPV =	0.100	IN/SEC	OUTPUT IN BLUE

GROUNDBORNE VIBRATION ANALYSIS

Project:	19510 Beyond Food Mart (Clinton Keith Road & Jana Lan	Date:	4/27/22
Source:	Large Bulldozer		
Scenario:	Unmitigated		
Location:	Annoyance Threshold		
Address:			

PPV = PPVref(25/D)^n (in/sec)

INPUT

Equipment Type =	2	Large Bulldozer	INPUT SECTION IN GREEN
PPVref =	0.089	Reference PPV (in/sec) at 25 ft.	
D =	23.00	Distance from Equipment to Receiver (ft)	
n =	1.50	Vibration attenuation rate through the ground	

Note: Based on reference equations from Vibration Guidance Manual, California Department of Transportation, 2006, pgs 38-43.

RESULTS

PPV =	0.101	IN/SEC	OUTPUT IN BLUE

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