Appendix H

Nance Street Trailer Yard Noise Impact Analysis

Ganddini Group
March 1, 2024
Revised March 17, 2025

NANCE STREET TRAILER YARD NOISE IMPACT ANALYSIS

City of Perris
March 1, 2024
(Rev 4, March 17, 2025)

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

NANCE STREET TRAILER YARD NOISE IMPACT ANALYSIS

City of Perris

March 1, 2024
(Rev 4, March 17, 2025)

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Project No. 19599

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EXECUTIVE SUMMARY

The project site is located west of North Webster Avenue on both sides of West Nance Street in the City of Perris, California on three non-contiguous sites totaling 9.73 acres. The project APN's are 314-153-058, 060, 062, 066, 070, and 082, and 314-160-013, 014, 016, 017, and 018. The project site is currently vacant and located within the Perris Valley Commerce Center Specific Plan (PVCCSP) planning area of the City of Perris. The project site has been designated in the PVCCSP for general industrial land uses.

The proposed project involves construction of a truck trailer yard consisting of 262 trailer parking spaces, 38 passenger car parking spaces, two 9,900 square foot mechanic bays totaling 19,800 square feet, and two 1,800 square foot office buildings totaling 3,600 square feet. The project proposes one right in/left out access driveway for trucks and one full access driveway for passenger cars on the portion of the project site north of West Nance Street, one left in/right out access driveway for trucks and one full access driveway for passenger cars on the western portion of the project site south of West Nance Street, and left in/right out for trucks and shared full access for passenger cars driveway on the eastern portion of the project site south of West Nance Street.

Existing Noise Environment

As stated above, the project site is located within the PVCCSP. The area is in transition and there are existing non-conforming residential land uses, some of which are being utilized for auto related commercial use. Measured short-term ambient noise levels in the project vicinity ranged between 52.4 and 64.3 dBA L_{eq} and measured long-term hourly ambient noise levels ranged from 49.8 to 72.3 dBA L_{eq}. The dominant noise source in the project vicinity was vehicle traffic associated with Harley Knox Boulevard, West Nance Street, and North Webster Avenue, and air traffic from March Air Reserve Base.

Sensitive Receptors/Applicable Thresholds

Section 16.22.020 of the City of Perris Municipal Code defines sensitive receptors as residences, schools, libraries, hospitals, churches, offices, hotels, motels, and outdoor recreational areas. However, for the purposes of this analysis what qualifies as a sensitive receptor depends on what type of impact is being evaluated. For example, Section 7.34.060 of the City's Municipal Code prohibits construction noise from exceeding 80 dB L_{max} in residential zones and does not apply to non-conforming land uses in other zones. However, in an effort to be conservative, potential construction noise impacts to existing non-conforming residential land uses were evaluated in the construction noise analysis.

Project operational noise (stationary noise) impacts are assessed in light of the City's Community Noise Equivalent Level (CNEL) standard. The applicable threshold, Implementation Measure V.A.1 which is found in the City of Perris General Plan Noise Element (2011) states that *"An acoustical impact analysis shall be prepared for new industrial and large-scale commercial facilities to be constructed within 160 feet of the property line of any existing noise sensitive land use."* So, the definition of a sensitive receptor, found in Section 16.22.020 (above) applies to the analysis of operational noise impacts. Based on this definition, the only sensitive receptor within 160-feet of the project site is the non-conforming residential land use located at 953 West Nance Street. However, for the purposes of discussion and disclosure, this study also includes operational noise data at other locations including an existing non-conforming single-family residential land use located 4611 Nevada Avenue and an existing residential building that is currently being utilized for commercial purposes (Auto Aide Towing) located at 845 West Nance Street, just south of the project site and Nance Street.

Per City staff direction, the maximum (L_{max}) standard found in Section 7.34.040 of the City's Noise Ordinance also applies to project operational noise. This ordinance prohibits the generation of amplified sound beyond the property line of the property from which the sound emanates that exceeds 80 dBA L_{max} between the hours of 7:01 AM and 10:00 PM or 60 dBA L_{max} between the hours of 10:01 PM and 7:00 AM at the property line of the property from which the sound emanates. Although this ordinance was written to apply to amplified

noise, it was used in the study to evaluate potential impacts associated with the proposed project, i.e., vehicle back-up alarms. For this impact, all adjacent and nearby land uses would be considered. A loud back-up alarm operating near the existing non-conforming residential land use located at 953 West Nance Street was modeled to represent a worst case scenario.

The threshold utilized to evaluate the potential for the Proposed Project to result in substantial increases in ambient noise levels due to project generated traffic is found in the Draft Environmental Impact Report prepared for the PVCCSP (City of Perris 2011. Utilizing the definition of a sensitive receptor found in Section 16.22.020 of the City of Perris Municipal Code, impacts associated with project generated vehicle trips were evaluated at the existing sensitive receivers located along West Nance Street and along North Webster Avenue. Any non-conforming existing single family residential structures in the project area that are clearly being used as auto towing companies, truck storage yards, or other noise producing commercial or industrial land uses were not considered as sensitive receptors for the purposes of this analysis.

Project Construction Impacts – Onsite Equipment

All land uses adjacent to or near the project site are zoned for General Industrial land uses. Section 7.34.060 of the City's municipal code prohibits construction activity from exceeding 80 dBA L_{max} in residential zones within the City. There are no residentially zoned properties in the vicinity of the project site. However, construction noise was calculated at the existing non-conforming residential land uses located in the project area, that are zoned for industrial land uses.

Construction noise would reach up to 70.1 dBA L_{eq} and 72.7 L_{max} at the non-conforming residential land use along at 4611 Nevada Avenue and 75.7 dBA L_{eq} and 95.5 L_{max} at the non-conforming residential land use along Nance Street. The 80 dBA L_{max} standard would be exceeded at the non-conforming residential land use located at 953 West Nance Street. Mitigation measures listed below are required to be implemented during construction activities on lots adjacent to 953 West Nance Street and mitigation is required during construction activities per the direction of City staff.

Mitigation Measure 1
An eight-foot temporary construction barrier shall be installed along the eastern and western property lines of 953 West Nance Street during the entirety of construction activities on adjacent lots. Either one-inch plywood or sound blankets that provide a sound level reduction of at least 16 dB shall be utilized for this purpose[1]. They should reach up from the ground and block the line of sight between equipment and existing residences. The shielding shall be without holes and cracks.

Notwithstanding the above, best management practices (BMPs) have also been provided in the Project Description and should be added to project plans and in contract specifications to further minimize construction noise emanating from the proposed project.

Project Construction Impacts – Offsite Vehicle Trips

Project vehicle traffic generated during project construction would be anticipated to be nominal relative to existing roadway volumes and would not result in the doubling of traffic volume necessary to increase noise levels by 3 dBA. No mitigation is required.

[1] 1-inch plywood that is 3.3 pounds per square foot. Sound blankets can provide up to 45 dB of reduction depending on the manufacturer. Examples can be viewed at https://echobarrier.com/ and https://acoustiblok.com.

Operational Noise Impacts – Onsite Sources

Noise Levels – CNEL

Based on the operational noise modeling, project operation is expected to range between 48 and 56 dBA CNEL at the nearby receivers and would not exceed the City's General Plan land use compatibility criteria of 60 dBA CNEL at existing noise sensitive land uses (see Table 10/Figure 6). No mitigation is required.

Noise Levels – Lmax

Section 7.34.040 of the City's Noise Ordinance prohibits the generation of amplified sound beyond the property line of the property from which the sound emanates that exceeds 80 dBA L_{max} between the hours of 7:01 AM and 10:00 PM or 60 dBA L_{max} between the hours of 10:01 PM and 7:00 AM.

Although this ordinance was written to apply to amplified noise, it was used in the study to evaluate potential impacts associated with the proposed project, i.e., vehicle back-up alarms. For this impact, all adjacent and nearby land uses would be considered. A loud back-up alarm operating near the existing non-conforming residential land use located at 953 West Nance Street was modeled to represent a worst case scenario. Project operational noise at 953 West Nance Street would not exceed the daytime noise standard of 80 dBA L_{max} but could exceed the nighttime noise standard of 60 dBA L_{max}. As the 60 dBA L_{max} nighttime standard would be exceeded, the following mitigation measure is required.

Mitigation Measure 2
The use of back up alarms shall be prohibited within 60 feet of the property line of the parcel located at 953 West Nance Street during nighttime hours (10:00 PM – 7:00 AM).

Operational Noise Impacts – Offsite Vehicle Trips

Per the trip generation and trip distribution data provided in the Traffic Impact Analysis prepared for the project *(Nance Street Trailer Yard Traffic Impact Analysis* (Ganddini Group, Inc., April 18, 2024), new traffic trips associated with the proposed project will utilize West Nance Street and North Webster Avenue. Existing and Existing Plus Project traffic noise levels were modeled and compared at sensitive noise receptors along W. Nance Street and Webster Avenue.

The modeled Existing traffic noise level at the existing noise sensitive receptor located at 953 West Nance Street is 57.8 dBA CNEL. The existing noise level at this location is less than 60 dBA CNEL. Therefore, per the definition provided in the PVCCSP of a substantial increase, the applicable threshold at this location is an increase of no more than 5 dB. The modeled Existing Plus Project noise level at this location is 60.6 dBA CNEL. Therefore, project generated vehicle traffic would not result in an increase of ambient noise levels by more than 5 dB. No mitigation is required.

The modeled Existing traffic noise level along North Webster Avenue South of West Nance Street is 68.77 dBA CNEL. The existing noise level at this location exceeds 60 dBA CNEL. Therefore, the applicable threshold is an increase of no more than 3 dB. Modeled Existing Plus Project noise level at this location is 69.07 dBA CNEL. Therefore, project generated vehicle traffic would not result in an increase of ambient noise levels by more than 3 dB. No mitigation is required.

Groundborne Vibration Impacts

Use of a vibratory roller is expected to generate a PPV of 26.25 in/sec and use of a bulldozer is expected to generate a PPV of 11.125 in/sec at the closest off-site building, a commercial structure located adjacent to the southeast of the project site, which would potentially exceed vibration thresholds without mitigation.

The following measure is recommended to ensure project construction does not cause architectural damage or severe annoyance to nearby buildings:

Mitigation Measure 3
The use of vibratory rollers, or other similar vibratory equipment, within 15 feet and large bulldozers within 8 feet of commercial structures to the southeast shall be prohibited.

Other equipment anticipated to be used during project construction generate lower PPV. Therefore, groundborne vibration generated by project construction would not exceed the levels necessary to cause architectural damage or severe annoyance to persons living or working in nearby buildings with implementation of Mitigation Measure 3.

Air Traffic Impacts

The project site is located within Compatibility Zone B1 (Inner Approach/Departure Zone) and the 60, 65, and 70 dBA CNEL noise contours of the March Air Reserve Base/Inland Port Airport. Industrial land uses, such as the project site, are allowed uses within Zone B1. Therefore, the project would not expose people residing or working in the project area to excessive noise levels associated with airports. No mitigation is required.

1. INTRODUCTION

This section describes the purpose of this study and the proposed project.

PURPOSE AND OBJECTIVES

The purpose of this report is to provide an assessment of the noise impacts resulting from development and operation of the proposed project and to identify mitigation measures that may be necessary to reduce potentially significant 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 Perris, in the context of the California Environmental Quality Act (CEQA).

Although this is a technical report, effort has been made to write the report clearly and concisely. A list of acronyms and glossary are provided in Appendix A and Appendix B of this report to assist the reader with technical terms related to noise and vibration analysis.

PROJECT LOCATION

The project site is located west of North Webster Avenue on both sides of West Nance Street in the City of Perris, California on three non-contiguous sites totaling 9.73 acres. The project APN's are 314-153-058, 060, 062, 066, 070, and 082, and 314-160-013, 014, 016, 017, and 018. The project site is currently vacant and located within the Perris Valley Commerce Center Specific Plan (PVCCSP) planning area of the City of Perris. A vicinity map showing the project location is provided on Figure 1.

PROJECT DESCRIPTION

The proposed project involves construction of a truck trailer yard consisting of 262 trailer parking spaces, 38 passenger car parking spaces, two 9,900 square foot mechanic bays totaling 19,800 square feet, and two 1,800 square foot office buildings totaling 3,600 square feet. The project proposes one right in/left out access driveway for trucks and one full access driveway for passenger cars on the portion of the project site north of West Nance Street, one right in/right out access driveway for trucks and one full access driveway for passenger cars on the western portion of the project site south of West Nance Street, and left in/right out for trucks and full access for passenger cars driveway on the eastern portion of the project site south of West Nance Street. Figure 2 illustrates the project site plan.

The following best management practices (BMPs) will be provided on project plans and in contract specifications to minimize construction noise emanating from the proposed project:

1. Project construction shall not occur outside of the hours outlined in Section 7.34.060 of the City of Perris Municipal Code.
2. All equipment, whether fixed or mobile, shall be equipped with properly operating and maintained mufflers, consistent with manufacturer standards.
3. All stationary construction equipment shall be placed so that emitted noise is directed away from the noise sensitive receptors nearest the project site.
4. As applicable, all equipment shall be shut off and not left to idle when not in use.
5. To the degree possible, equipment staging shall be located in areas that create the greatest distance between construction-related noise and vibration sources and existing sensitive receptors.
6. Portable stationary noise sources shall be directed away and shielded from existing residences in the vicinity of the project site. Either one-inch plywood or sound blankets shall be utilized for this purpose.

They should reach up from the ground and block the line of sight between equipment and existing residences. The shielding shall be without holes and cracks.

7. No amplified music and/or voice shall be allowed on the project site.
8. Haul truck deliveries shall not occur outside of the hours presented as exempt for construction per City of Perris Municipal Code Section 7.34.060.

Figure 1
Project Location Map

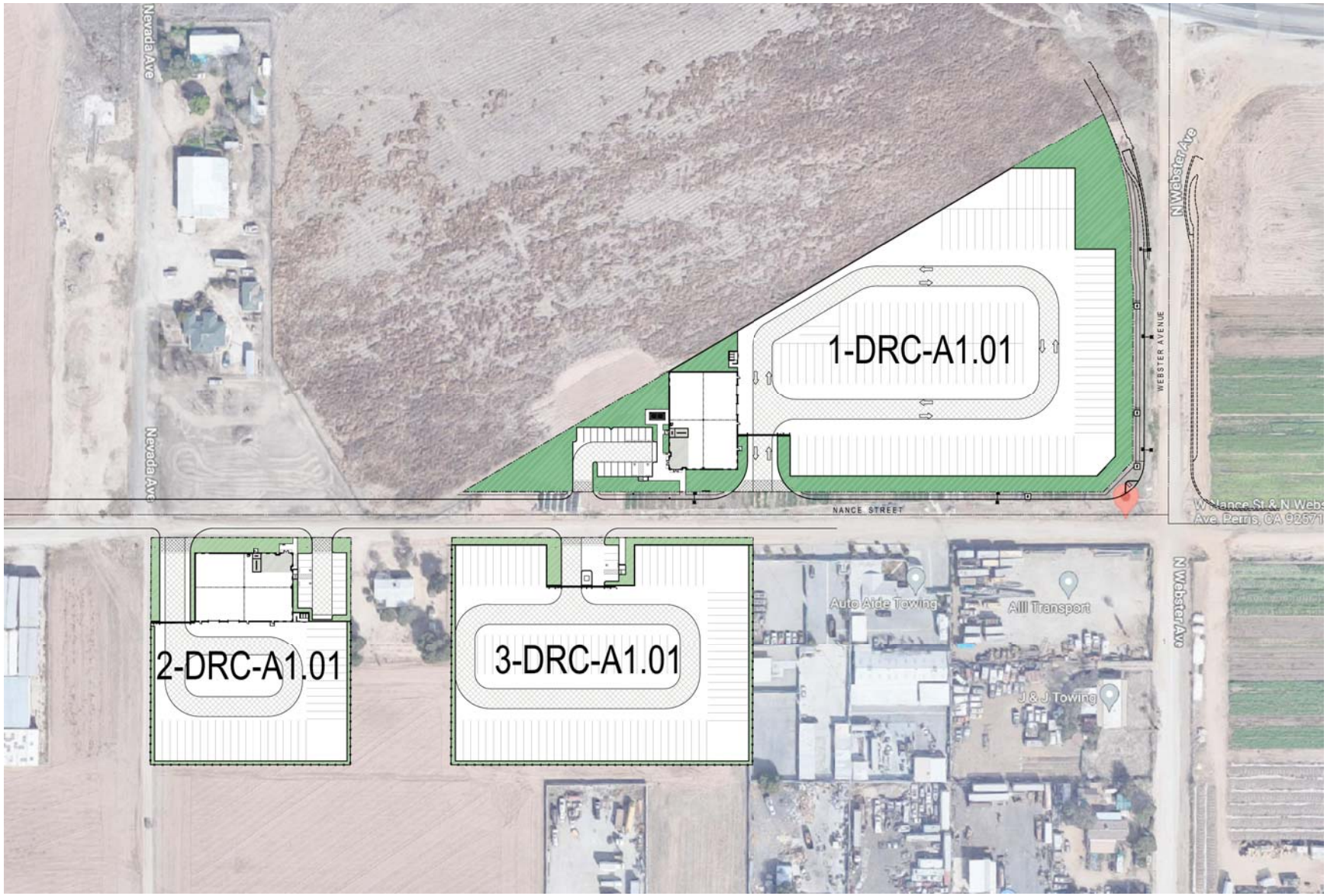


Figure 2
Project Site Plan

2. NOISE AND VIBRATION FUNDAMENTALS

This section provides an overview of key noise and vibration concepts.

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

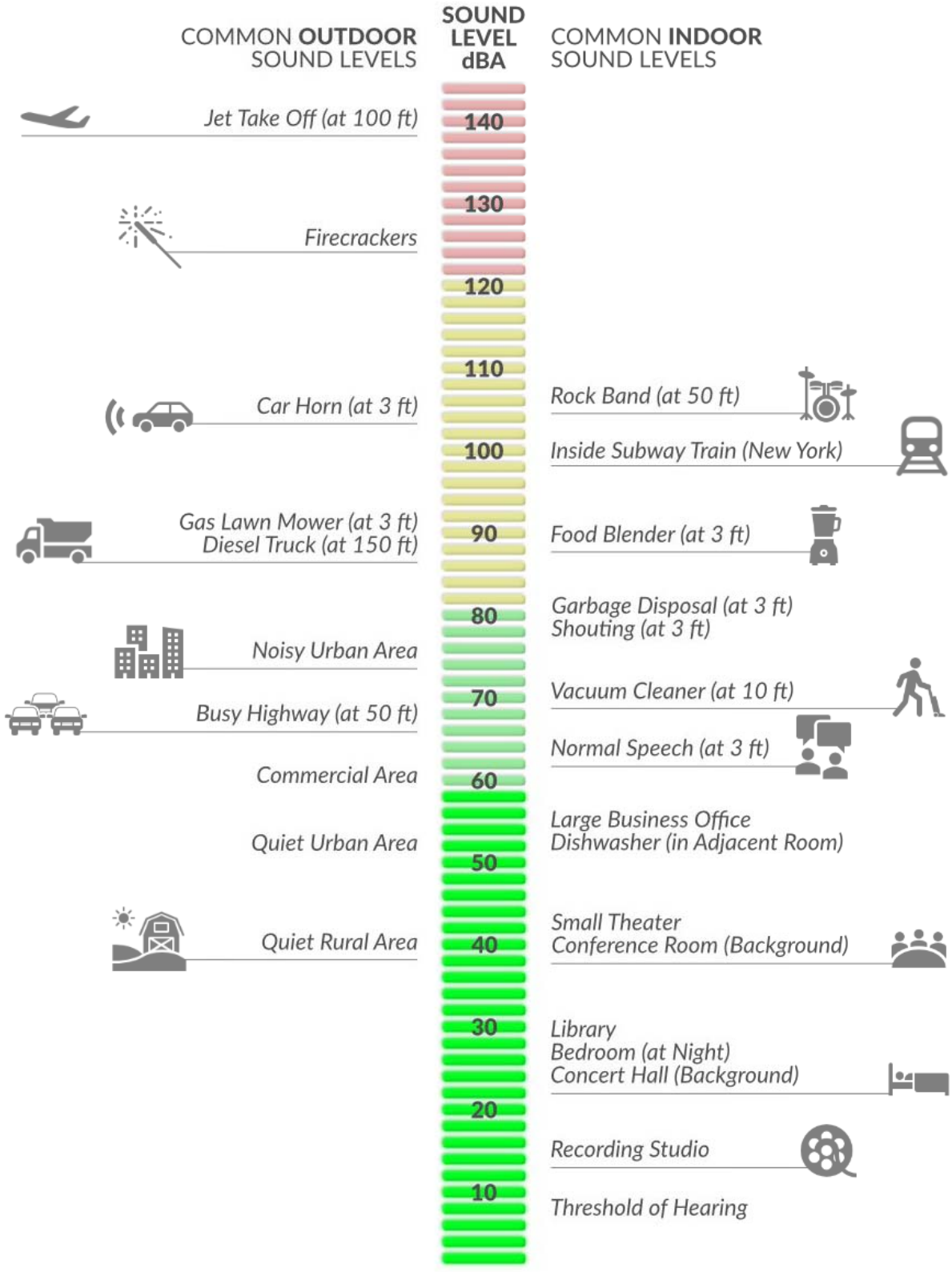
The way in which vibration is transmitted through the earth is called propagation. Propagation of earthborn vibrations is complicated and difficult to predict because of the endless variations in the soil through which waves travel. There are three main types of vibration propagation: surface, compression 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.

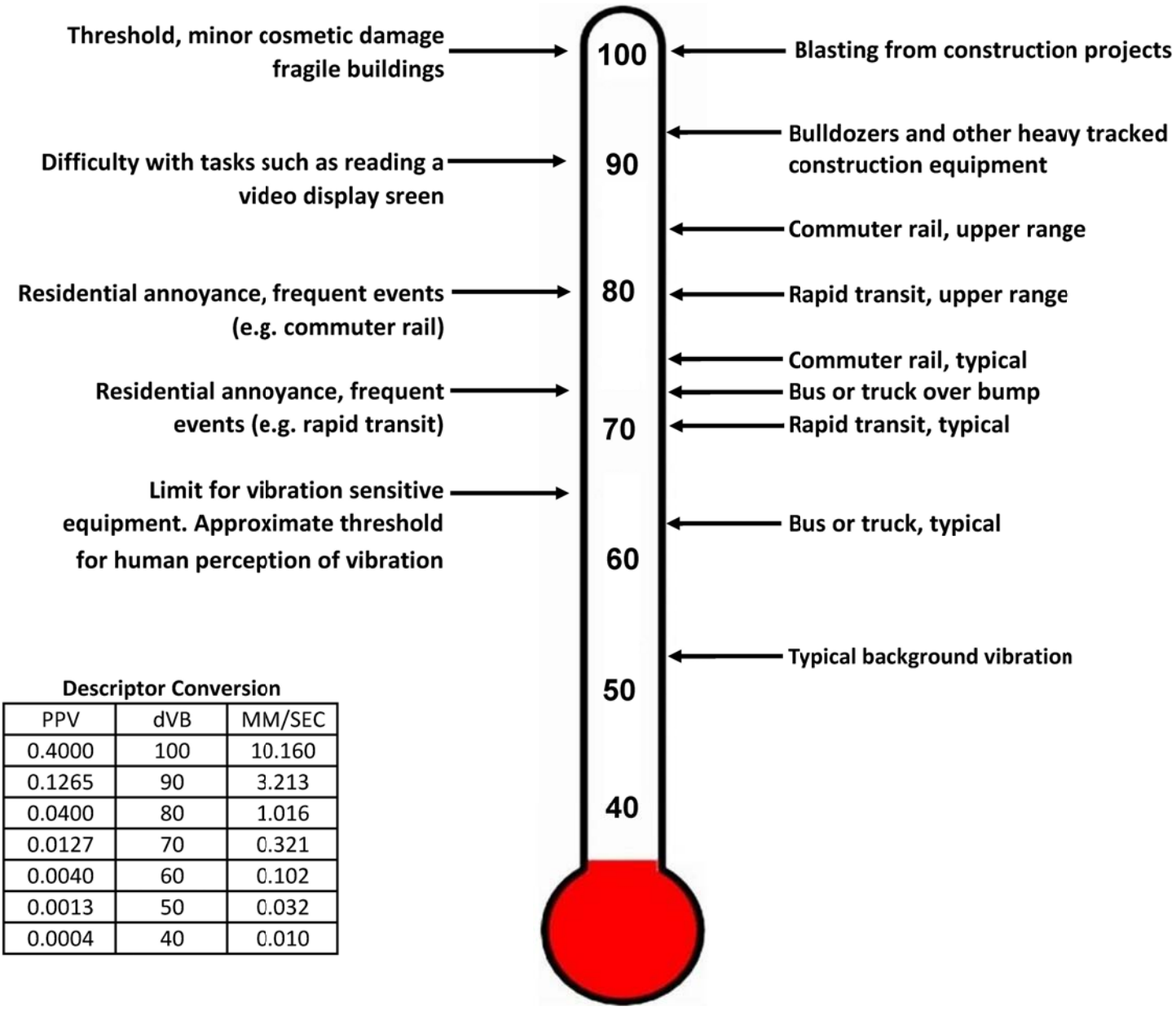
Vibration amplitudes are usually expressed as either peak particle velocity (PPV) or the root mean square (RMS) velocity. The PPV is defined as the maximum instantaneous peak of the vibration signal in inches per second. The RMS of a signal is the average of the squared amplitude of the signal in vibration 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.



Based on Policy & Guidance from Federal Aviation Administration

Figure 3
A-Weighted Comparative Sound Levels



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

This section describes the existing noise setting in the project vicinity.

EXISTING LAND USES AND SENSITIVE RECEPTORS

The project site is bordered by vacant land and West Nance Street to the north, North Webster Avenue and commercial uses to the east, West Nance Street and industrial uses to the south, and vacant land to the west of the project site.

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.

The project site is located within the PVCCSP. The area is in transition and there are existing non-conforming residential land uses, some of which are being utilized for auto related commercial land uses.

Section 16.22.020 of the City of Perris Municipal Code defines sensitive receptors as residences, schools, libraries, hospitals, churches, offices, hotels, motels, and outdoor recreational areas. However, for the purposes of this analysis what qualifies as a sensitive receptor depends on what type of impact is being evaluated. For example, Section 7.34.060 of the City's Municipal Code prohibits construction noise from exceeding 80 dB in residential zones and does not apply to non-conforming land uses in other zones. In an effort to be conservative, potential construction noise impacts to existing non-conforming residential land uses were evaluated in the construction noise analysis.

Project operational noise (stationary noise) impacts are assessed in light of the City's Community Noise Equivalent Level (CNEL) standard. The applicable threshold is Implementation Measure V.A.1 found in the City of Perris General Plan Noise Element (2011) which states that *"An acoustical impact analysis shall be prepared for new industrial and large-scale commercial facilities to be constructed within 160 feet of the property line of any existing noise sensitive land use."* So, the definition found in Section 16.22.020 (above) applies to the analysis of operational noise impacts. The only sensitive receptor within 160-feet of the project site is the non-conforming residential land use located at 953 West Nance Street. However, for the purposes of discussion and disclosure, this study also provides data for anticipated project operational noise levels at other locations including an existing non-conforming single-family residential land use located 4611 Nevada Avenue and an existing residential building that is currently being utilized for commercial purposes (Auto Aide Towing) located at 845 West Nance Street, just south of the project site and Nance Street.

The maximum (L_{max}) standard found in Section 7.34.040 of the City's Noise Ordinance is also utilized to assess the potential for the project to violate the City's maximum operational noise. This ordinance prohibits the generation of amplified sound beyond the property line of the property from which the sound emanates that exceeds 80 dBA L_{max} between the hours of 7:01 AM and 10:00 PM or 60 dBA L_{max} between the hours of 10:01 PM and 7:00 AM at the property line of the property from which the sound emanates. Although this ordinance was written to apply to amplified noise, it was used in the study to also evaluate potential impacts associated with the proposed project, i.e., vehicle back-up alarms, For this impact, all adjacent and nearby land uses would be considered. A worst case scenario was evaluated by modeling back alarm noise at 835 Nance Street.

The threshold utilized to evaluate the project's potential to result in substantial increases in ambient noise levels due to project generated traffic is found in the Draft Environmental Impact Report prepared for the PVCCSP (City of Perris 2011). The definition of a sensitive receptor that applies to is provided in Section 16.22.020 of the City of Perris Municipal Code, impacts associated with project generated vehicle trips were evaluated at the existing sensitive receivers located along West Nance Street and North Webster Avenue. Any non-conforming existing single family residential structures in the project area that are clearly being used

as auto towing companies, truck storage yards, or other noise producing commercial or industrial land uses were not considered as sensitive receptors for the purposes of this analysis.

AMBIENT NOISE MEASUREMENTS

An American National Standards Institute (ANSI Section SI.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, four (4) 15-minute daytime noise measurements were taken between 1:15 PM and 3:11 PM on February 15, 2023. In addition, one (1) long-term 24-hour noise measurement were also taken from February 15, 2023, to February 16, 2023. Figure 5 shows the noise measurement location map. Field worksheets and noise measurement worksheets are provided in Appendix C.

As shown on Figure 5, existing ambient noise measurements were taken at the following locations:

- STNM1: represents the existing noise environment of the non-conforming residential land use located to the northwest of the project site along Nevada Avenue (4611 Nevada Avenue, Perris). The noise meter was placed near the western property line.
- STNM2: represents the existing noise environment of the existing noise environment of the non-conforming residential land use located at 953 W Nance Street, Perris which is located south of the project site. There is an occupied manufactured home at this location. The noise meter was placed near the northern property line.
- STNM3: represents the existing noise environment at the commercial tow yard use located southeast of the project site at 845 West Nance Street, Perris. The noise meter was placed near the northern property line of this commercial use just south of West Nance Street.
- STNM4: represents the existing noise environment of the eastern portion of the project site and the commercial uses to the east of North Webster Avenue (775 Harley Knox Boulevard, Perris). The noise meter was placed along the eastern property line of the project stie just west of North Webster Avenue and south of Harley Knox Boulevard.
- LTNM1: represents the existing noise environment of the project site. The noise meter was placed along the northern property line of the project site.

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 52.4 and 64.3 dBA L_{eq}. Long-term hourly noise measurement ambient noise levels ranged from 49.8 to 72.3 dBA L_{eq}. The dominant noise source in the project vicinity was vehicle traffic associated with Harley Knox Boulevard, West Nance Street, and North Webster Avenue and air traffic from March Air Reserve Base.

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	1:15 PM	54.2	67.0	47.8	59.3	56.9	54.5	52.9
STNM2	1:57 PM	52.4	61.9	47.5	56.0	54.3	53.2	51.9
STNM3	2:28 PM	64.3	81.8	51.0	75.6	65.9	60.8	58.8
STNM4	2:56 PM	62.8	79.6	50.1	71.6	66.8	60.9	75.6

Notes:
(1) See Figure 5 for noise measurement locations. Each noise measurement was performed over a 15-minute duration.
(2) Noise measurements performed on February 15, 2023.

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	5:00 PM	61.8	101.3	36.6	60.2	57.4	55.0	52.0
1	5:00 PM	56.0	72.7	46.7	61.8	57.6	56.0	54.4
2	6:00 PM	54.8	70.1	46.3	60.2	57.1	55.2	53.5
3	7:00 PM	55.6	78.1	45.8	62.6	56.1	54.3	53.0
4	8:00 PM	56.1	77.2	45.2	62.8	54.3	52.5	51.2
5	9:00 PM	58.6	76.3	49.3	67.4	59.2	57.5	55.9
6	10:00 PM	55.2	62.4	48.2	58.1	57.1	56.0	54.8
7	11:00 PM	51.8	65.1	46.3	56.5	54.1	52.4	50.9
8	12:00 AM	52.0	64.2	46.6	56.4	54.5	52.6	51.0
9	1:00 AM	50.1	62.1	45.8	53.4	52.3	51.0	49.6
10	2:00 AM	49.8	57.0	45.6	53.5	51.8	50.6	49.3
11	3:00 AM	53.9	74.1	46.4	56.8	55.7	54.5	53.0
12	4:00 AM	56.0	62.9	51.1	59.0	58.1	57.0	55.9
13	5:00 AM	57.7	66.2	53.7	60.5	59.5	58.4	57.3
14	6:00 AM	56.7	67.1	52.2	59.7	58.4	57.2	56.3
15	7:00 AM	55.9	67.3	51.2	59.7	57.9	56.5	55.4
16	8:00 AM	52.8	70.0	39.5	57.7	55.8	53.7	50.7
17	9:00 AM	56.2	79.9	39.4	64.3	51.6	49.0	46.8
18	10:00 AM	57.3	85.1	36.6	58.9	50.8	48.1	45.8
19	11:00 AM	52.6	74.4	39.0	59.5	52.7	49.5	47.5
20	12:00 PM	70.1	98.2	38.9	73.4	60.4	51.3	48.5
21	1:00 PM	72.3	101.3	41.4	72.5	59.7	52.3	50.2
22	2:00 PM	63.4	92.3	43.7	62.7	54.8	52.1	50.5
23	3:00 PM	51.9	68.0	43.1	56.0	54.2	52.6	51.3
24	4:00 PM	53.7	76.4	44.4	56.9	54.8	53.2	52.1
CNEL	64.1							

Notes:

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

(2) Noise measurement performed from February 15, 2023 to February 16, 2023.

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

This section documents the regulatory framework and applicable noise standards.

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 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 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.

Department of Transportation

The California Department of Transportation (Caltrans) has developed several publications on groundborne vibration. The *Transportation and Construction Vibration Guidance Manual* (Caltrans, 2020) provides informational content that supplements previous publications with improved knowledge and information relating to groundborne transportation- and construction-induced vibrations. Although the *Transportation and Construction Vibration Guidance Manual* is not an official policy, standard, specification, or regulation, it serves as a useful guide for evaluating vibration impacts.

Table 3 and Table 4 show the guideline criteria for potential damage and annoyance resulting from groundborne vibration. As shown in Table 3, these guidelines recommend that the threshold at which there is a risk of architectural damage is a peak particle velocity (PPV) of 0.25 inches/second (in/sec) for historic buildings, PPV of 0.3 in/sec at older residential structures, and a PPV of 0.5 in/sec at new residential structures and modern commercial/industrial buildings. Table 4 shows that a PPV of 0.4 in/sec is the threshold at which groundborne vibration becomes severe in regard to annoyance (Caltrans, 2020).

LOCAL REGULATIONS

City of Perris General Plan

The City of Perris 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 5).

The City of Perris General Plan Noise Element also includes the following goals, policies, and implementation measures in regard to noise which apply to the proposed project.

Goal-1: Land Use Siting: *Future land uses compatible with projected noise environments.*

Policy I.A: *The State of California Noise/Land Use Compatibility Criteria shall be used in determining land use compatibility for new development.*

Implementation Measures

I.A.1 All new development proposals will be evaluated with respect to the State Noise/Land Use Compatibility Criteria. Placement of noise sensitive uses will be discouraged within any area exposed to exterior noise levels that fall into the "Normally Unacceptable" range and prohibited within areas exposed to "Clearly Unacceptable" noise ranges.

Goal-V: Stationary Source Noise: *Future non-residential land uses compatible with noise sensitive land uses.*

Policy V.A: *New large scale commercial or industrial facilities located within 160 feet of sensitive land uses shall mitigate noise impacts to attain an acceptable level as required by the State of California Noise/Land Use Compatibility Criteria.*

Implementation Measures

V.A.1 An acoustical impact analysis shall be prepared for new industrial and large-scale commercial facilities to be constructed within 160 feet of the property line of any existing noise sensitive land use. This analysis shall document the nature of the commercial or industrial facility as well as all interior or exterior facility operations that would generate exterior noise. The analysis shall document the placement of any existing or proposed noise-sensitive land uses situated within the 160-foot distance. The analysis shall determine the potential noise levels that could be received at these sensitive land uses and specify specific measures to be employed by the large scale commercial or industrial facility to ensure that these levels do not exceed 60 dBA CNEL at the property line of the adjoining sensitive land use. No development permits or approval of land use applications shall be issued until the acoustic analysis is received and approved by the City of Perris Staff.

City of Perris Municipal Code

Chapter 7.34 of the City's Municipal Code establishes base ambient noise levels and establishes maximum noise level limits for stationary noise sources.

7.34.040 Sound Amplification

No person shall amplify sound using sound amplifying equipment contrary to any of the following:

1) *The only amplified sound permitted shall be either music or the human voice, or both*
2) *The volume of amplified sound shall not exceed the noise levels set forth in this subsection when measured outdoors at or beyond the property line of the property from which the sound emanates.*

Time Period	***Maximum Noise Level***
10:01 PM-7:00 AM	*60 dBA*
7:01 AM – 10:00 PM	*80 dBA*

7.34.050 General Prohibition

(a) It unlawful for any person to willfully make, cause or suffer, or permit to be made or caused, any loud excessive or offensive noises or sounds which unreasonably disturb the peace and quiet of any residential neighborhood or which are physically annoying to persons of ordinary sensitivity or which are so harsh, prolonged or unnatural or unusual in their use, time or place as to occasion physical discomfort to the inhabitants of the city, or any section thereof. The standards for dBA noise level in section 7.34.040 shall apply to this section. To the extent that the noise created causes the noise level at the property line to exceed the ambient noise level by more than 1.0 decibels, it shall be presumed that the noise being created also is in violation of this section.

(b) The characteristics and conditions which should be considered in determining whether a violation of the provisions of this section exists should include, but not be limited to, the following:

(1) The level of the noise;
(2) Whether the nature of the noise is usual or unusual;
(3) Whether the origin of the noise is natural or unnatural;
(4) The level of the ambient noise;
(5) The proximity of the noise to sleeping facilities;
(6) The nature and zoning of the area from which the noise emanates and the area where it is received;
(7) The time of day or night the noise occurs;
(8) The duration of the noise; and
(9) Whether the noise is recurrent, intermittent, or constant.

7.34.060 Hours of Construction

It is unlawful for any person between the hours of 7:00 PM of any day and 7:00 AM of the following day, or on a legal holiday, with the exception of Columbus Day and Washington's birthday, or on Sundays to erect, construct, demolish, excavate, alter or repair any building or structure in such a manner as to create disturbing, excessive or offensive noise. Construction activity shall not exceed 80 dBA L_{max} in residential zones in the City of Perris.

7.34.070 Refuse vehicles and parking lot sweepers

No person shall operate or permit to be operated a refuse compacting, processing or collection vehicle or parking lot sweeper between the hours of 7:00 PM to 7:00 AM in any residential area unless a permit has been applied for and granted by the city.

7.34.080 Disturbing, excessive, offensive noises; declaration of certain acts constituting.

The following activities, among others, are declared to cause loud, disturbing, excessive or offensive noises in violation of this section and are unlawful, namely:

(7) Leaf blowers

a. The term "leaf blower" means any portable, hand-held or backpack, engine-powered device with a nozzle that creates a direct able airstream which is capable of and intended for moving leaves and light materials.
b. No person shall operate a leaf blower in any residential zoned area between the hours of 7:00 PM and 8:00 AM on weekdays and 5:00 PM and 9:00 AM on weekends or on legal holidays.
c. No person may operate any leaf blower at a sound level in excess of 80 decibels measured at a distance of 50 feet or greater from the point of noise origin.

Leaf blowers shall be equipped with functional mufflers and an approved sound limiting device required to ensure that the leaf blower is not capable of generating a sound level exceeding any limit prescribed in this section.

19.51.080 Noise

Chapter 19.51 of the City's Municipal Code establishes noise levels and regulations for land uses within the March ARB/IP Airport Overlay Zone (MAOZ).

Airport Related Noise. Noise compatibility standards are intended to prevent the establishment of noise-sensitive land uses in portions of the airport environ that are exposed to significant levels of aircraft noise. Where permitted within the Airport Overlay Zone (AOZ), the following noise-sensitive land uses shall comply with applicable noise exposure criteria:

1) All new residences, schools, libraries, museums, hotels and motels, hospitals and nursing homes, places of worship, and other noise-sensitive uses must have sound attenuation features incorporated into the structures sufficient to reduce interior noise levels from exterior aviation-related sources to no more than CNEL 40 dB. This requirement is intended to reduce the disruptiveness of loud individual aircraft noise events upon uses in this zone and represents a higher standard than the CNEL 45 dB standard set by state and local regulations and the Riverside County ALUC policy.

2) Office space must have sound attenuation features sufficient to reduce the exterior aviation-related noise level to no more than CNEL 45 dB. To ensure compliance with these criteria, an acoustical study shall be required to be completed for any development proposed to be situated where the aviation-related noise exposure is more than 20 dB above the interior standard (e.g., within the CNEL 60 dB contour where the interior standard is CNEL 40 dB).

3) Standard building construction is presumed to provide adequate sound attenuation where the difference between the exterior noise exposure and the interior standard is 20 dB or less.

Table 3
Guideline Vibration Damage Potential Threshold Criteria

Structure Condition	Maximum PPV (in/sec)	
	Transient Sources[1]	Continuous/Frequent Intermittent Sources[1]
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

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

Notes:

(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 4
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

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

Notes:

(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
City of Perris Land Use / Noise Compatibility Guidelines for Noise

Land Use Category	Community Noise Equivalent Level (CNEL)						
	55	60	65	70	75	80	85
Residential: Low Density Single Family, Duplex, Mobile Homes							
Residential: Multi-Family							
Commercial: Hotels/Motels, Transient Lodging							
Schools, Libraries, Churches, Hospitals, Nursing Homes							
Auditoriums, Concert Halls, Amphitheatres, Meeting Halls							
Sports Arena, Outdoor Spectator Sports							
Playgrounds, Neighborhood Parks							
Golf Courses, Riding Stables, Water Recreation, Cemeteries							
Office Buildings, Business Commercial and Professional, and Mixed-Use Developments							
Industrial, Manufacturing Utilities, Agriculture							

Normally Acceptable:	Specific land use is satisfactory, based up 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 insulation features included in the design. Conventional constuction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.
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 and needed noise reduction features included in the design.
Clearly Unacceptable:	New construction or development should generally not be undertaken.

Source: California Governor's Office of Planning and Research, State of California General Plan Guidelines, Appendix C: Guidelines for the Preparation and Content of Noise Elements of the General Plan, February 1976 and City of Perris General Plan, 2005.

5. ANALYTICAL METHODOLOGY AND MODEL PARAMETERS

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

CONSTRUCTION NOISE MODELING

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.

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 receptor, equipment usage, percent usage factor, and baseline parameters for the project site. The equipment used to calculate the construction noise levels for each phase were based on the assumptions provided in the CalEEMod construction emission modeling provided in the Air Quality, Global Climate Change, HRA, and Energy Impact Analysis prepared for the proposed project (Ganddini Group, Inc., 2024). An 8-hour average construction noise level and a maximum construction noise level was modeled at each of the affected non-conforming residential land uses. Distances to receptors were based on the acoustical center of the project site for the 8-hour L_{eq} calculation and from the edge of the project site to the nearest non-conforming residential property for maximum (L_{max}) construction noise levels. Sound emission levels associated with typical construction equipment as well as typical usage factors are provided in Table 6. Construction noise worksheets are provided in Appendix D.

STATIONARY SOURCE/OPERATIONAL NOISE MODELING

The SoundPLAN acoustical modeling software was utilized to model project operational stationary noise levels from the proposed project to adjacent and nearby land uses. SoundPLAN is capable of evaluating stationary noise sources (e.g., parking lots, drive-through menus, car wash equipment, vacuums, etc.). 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 E.

Operational noise levels were modeled utilizing representative sound levels in the SoundPLAN model. Modeled noise sources include vehicle movement/parking lot noise, equipment noise inside mechanical bays, and HVAC equipment. The CNEL as well as the expected maximum noise level associated with project operation was modeled utilizing representative sound levels in the SoundPLAN model. All noise sources were modeled to be in full operation.

Mechanical Bay Noise

Two mechanical bay/office buildings are proposed. Pneumatic equipment and associated air compressor machines are typically the loudest noise sources associated with vehicle repair activities. An air compressor was modeled inside each of the proposed Mechanical Bay buildings. It was assumed that the pneumatic equipment would be utilized 25% of the time lowering the sound pressure level for the L_{eq} from 120 to 114 dBA, as provided in the SoundPLAN noise model was utilized.

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 moves per parking space, the hour and the number of parking bays. The

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[1].

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.
114

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

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

Mechanical Equipment (HVAC Units)

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[2]. A rooftop HVAC plan was not available at the time of this analysis so the exact location and number of units per building were estimated. A total of 12 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. Roof top is assumed to be approximately 26 feet above grade.

Backup Alarm

In order to determine if the proposed project has the potential to exceed either of the above mentioned standards, a point noise source representative of a backup alarm (103 Lw) provided in the SoundPLAN library was utilized to model a maximum noise event at the nearest receptor.

MOBILE SOURCE NOISE MODELING

Noise from vehicular traffic (Existing, Existing Plus Project, and Future) was modeled using spreadsheets that use the FHWA Traffic Noise Prediction Model (FHWA-RD-77-108) formulas. The FHWA model arrives at the predicted noise level through a series of adjustments to the Reference Energy Mean Emission Level (REMEL). Key model parameters and REMEL adjustments are presented below:

- Roadway classification (e.g., freeway, major arterial, arterial, secondary, collector, etc.),
- Roadway active width (distance between the center of the outermost travel lanes on each side of the roadway),

[1] SoundPLAN Essential 5.1 Manual. SoundPLAN GmbH. August 2020. https://www.aacacustica.com/galeria/soundplan/essential/Manual_SoundPLAN_Essential_5.1.pdf

[2] MD Acoustics, LLC Noise Measurement Data for RTU –Carrier 50TFQ0006 and car alarm.

- Average Daily Traffic (ADT) Volumes, Travel Speeds, Percentages of automobiles, medium trucks and heavy trucks,
- Roadway grade and angle of view,
- Site conditions (e.g., soft vs. hard), and
- Percentage of total ADT which flows each hour throughout a 24-hour period.

Traffic noise levels were calculated at the right-of-way based on distance 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 modeled noise levels are shown for comparative purposes only to show the difference between with and without project conditions. Traffic noise calculation worksheets are included in Appendix F.

Project average daily traffic volumes and vehicle mix were based off the trip generation and trip distribution data provided in the Traffic Impact Analysis prepared for the proposed project (*Nance Street Trailer Yard Traffic Impact Analysis*, Ganddini Group, Inc., April 18, 2024). Existing average daily traffic volumes for all roadways were based on the existing ambient noise measurements (see Table 1 and Figure 5). Existing vehicle mix was based on the vehicle percentages provided in the Perris Valley Commerce Center Specific Plan (PVCCSP) Draft Environmental Impact Report (DEIR) (City of Perris 2011). However, as no day/evening/night (D/E/N) split was provided in the PVCCSP DEIR, the D/E/N splits were based on Riverside County. Per the traffic study, the project is anticipated to generate 419 new daily trips. Table 7 includes the modeled roadway segments as well as the average daily traffic volumes, posted speed limits, and vehicle mix utilized in this analysis.

GROUNDBORNE VIBRATION MODELING

Groundborne vibration modeling was performed using vibration propagation equations and construction equipment source levels obtained from the FTA *Transit Noise and Vibration Impact Assessment Manual* (2018). Table 8 shows typical vibration levels associated with commonly used construction equipment based on data from the FTA.

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 8, a vibratory roller could generate up to 0.21 in/sec PPV at 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 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 receptors, the vibration associated with it would drop below 0.0026 in/sec 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. Groundborne vibration calculations are provided in Appendix G.

The fundamental equation used to calculate vibration propagation through average soil conditions and distance is as follows:

$$PPV_{equipment} = PPV_{ref} (25/D_{rec})^{n}$$

Where: PPV_{ref} = *reference PPV at 25ft.*
D_{rec} = *distance from equipment to receiver in ft.*
n = 1.5 (*the value related to the attenuation rate through ground*)

Table 6 (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

Table 6 (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)
Pneumatic Tools	No	50	85	85	90
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.

Table 7
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		
Nance Street	Project Driveway 1 to Project Driveway 2	882	920	25	Hard
	Project Driveway 2 to Project Driveway 3	882	974	25	Hard
	Project Driveway 3 to Project Driveway 4	882	1,154	25	Hard
	Project Driveway 4 to Webster Avenue	13,674	14,094	25	Hard
	East of Webster Avenue	13,675	13,695	25	Hard
Webster Avenue	North of Nance Street	4,950	5,291	35	Hard
	South of Nance Street	4,950	5,009	35	Hard

Existing Vehicle Mix[2]			
Route Type	Auto	Medium Truck	Heavy Truck
Type 1	95.22	3.24	1.54
Type 2	90.94	4.06	5.00
Type 5	86.80	6.15	7.05

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 average daily traffic volumes for all roadways were based on the existing ambient noise measurements (see Table 1 and Figure 5). Project average daily traffic volumes and vehicle mix were based off the trip generation and trip distribution data provided in the Traffic Impact Analysis prepared for the project (*Nance Street Trailer Yard Traffic Impact Analysis* (Ganddini Group, Inc., April 18, 2024).

(2) Existing vehicle percentages are based on the Perris Valley Commerce Center Specific Plan EIR with D/E/N splits based on the Riverside County Industrial Hygiene Letter for Traffic Noise.

Table 8
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

6. NOISE AND VIBRATION IMPACTS

This section analyzes the significance of project-related noise and groundborne vibration impacts relative to standards established by the City of Perris and other applicable agencies in the context of CEQA. Appendix G of the California Environmental Quality Act Guidelines (Title 14, Division 6, Chapter 3 of the California Code of Regulations) includes an environmental checklist that identifies issues upon which findings of significance should be made. The CEQA Environmental Checklist Appendix G, XIII. Noise, requires determination if the project would result in:

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?*

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

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?*

NOISE IMPACTS

Would the project result in:

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?*

In relation to the Environmental Checklist noise issue "a", applicable standards established by the City of Perris can be categorized into the following areas:

- Construction Noise
- Operational Noise

Project Construction

On-Site Equipment

Construction noise is regulated within Section 7.34.060 of the City of Perris Municipal Code (see Regulatory Setting section of this report). Accordingly, the project would result in a significant impact if:

- Project construction occurs outside the hours of 7:00 AM and 7:00 PM Monday through Saturday or anytime on legal holidays, with the exception of Columbus Day and Washington's Birthday, and Sundays; or,
- Project construction noise exceeds 80 dBA L_{max} in residential zones within the City.

Project construction noise levels at nearby receptors were calculated using the FTA methodology. Construction noise modeling worksheets for each phase are provided in Appendix D. Anticipated noise levels at receptors during each construction phase are presented in Table 9.

All land uses adjacent to or near the project site are zoned for either General or Light Industrial land uses. Section 7.34.060 of the City's municipal code prohibits construction activity from exceeding 80 dBA L_{max} in

residential zones within the City. However, the construction analysis below includes non-conforming residential land uses. As shown in Table 9, construction noise would reach up to 70.1 dBA L_{eq} and 72.7 L_{max} at the non-conforming residential land use along Nevada Street and 75.7 dBA L_{eq} and 95.5 L_{max} at the non-conforming residential land use along Nance Street. The 80 dBA L_{max} standard would be exceeded at the non-conforming residential land use located at 953 West Nance Street. Per the direction of City staff mitigation is required during construction activities at the non-conforming residential land use located at 953 West Nance Street. The mitigation measure listed below is required to be implemented during construction activities on lots adjacent to 953 West Nance Street.

Mitigation Measure 1
An eight-foot temporary construction barrier shall be installed along the eastern and western property lines of 953 West Nance Street during the entirety of construction activities on adjacent lots. Either one-inch plywood or sound blankets that provide a sound level reduction of at least 16 dB shall be utilized for this purpose. They should reach up from the ground and block the line of sight between equipment and existing residences. The shielding shall be without holes and cracks.

Notwithstanding the above, best management practices (BMPs) have also been provided in the Project Description and should be added to project plans and in contract specifications to further minimize construction noise emanating from the proposed project.

Off-Site Vehicle Trips

Construction truck trips would occur throughout the construction period. Given the project site's proximity to the 215 Freeway, it is anticipated that vendor and/or haul truck traffic would take the most direct route to the appropriate freeway ramps.

West Nance Street currently handles between approximately 84 and 480 average daily vehicle trips in the vicinity of the project site and North Webster Avenue handles between approximately 1,920 and 2,076 average daily vehicle trips.[3] According to the *Nance Street Trailer Yard Air Quality, Global Climate Change, HRA, and Energy Impact Analysis* (Ganddini Group, Inc., 2024), the greatest number of construction-related vehicle trips per day would be during grading and paving at up to 15 worker vehicle trips per day. Project vehicle traffic generated during project construction would be anticipated to be nominal relative to existing roadway volumes and would not result in the doubling of traffic volume necessary to increase noise levels by 3 dBA. No mitigation is required.

Project Operational Noise

Onsite Noise Sources

Stationary noise source standards are established within the City of Perris General Plan Noise Element Implementation Measure V.A.1 and Section 9.02.050 of the City of Perris Municipal Code (see Regulatory Setting section of this report). Accordingly, the project would result in a significant impact if:

- Project operational noise exceeds the City-established noise standard of 60 dBA CNEL at the property line of adjoining "sensitive" land uses.

- Project operational noise exceeds the City-established noise standard of 80 dBA L_{max} between the hours of 7:00 AM to 10:00 PM or 60 dBA L_{max} between the hours of 10:00 PM and 7:00 AM.

Noise levels at nearby receptors were determined based on the SoundPLAN acoustical model developed for the project. SoundPLAN modeling worksheets are provided in Appendix E. Figure 6 shows the modeled

[3] Existing average daily vehicle trips calculated from the PM intersection turning movement volumes provided in the Nance Street Trailer Yard Traffic Impact Analysis, Ganddini Group Inc. (February 20, 2024).

project operational noise levels in dBA CNEL at the nearby receptors, conservatively assuming all on-site noise sources are operating simultaneously. Table 10 shows the modeled project operational noise levels relative to the City-established standards. A representative maximum noise event (back up beeper) was modeled separately in order to determine if operation of the project is likely to exceed the City's L_{max} standard of 80 dBA between the hours of 7:00 AM and 10:00 PM or the nighttime standard of 60 dBA L_{max} between the hours of 10:00 PM and 7:00 AM. The modeling results are shown on Figure 7.

Noise Levels – CNEL

Implementation Measure V.A.1 found in the City of Perris General Plan Noise Element (2011) states that "*An acoustical impact analysis shall be prepared for new industrial and large-scale commercial facilities to be constructed within 160 feet of the property line of any existing noise sensitive land use*." The only sensitive receptor within 160-feet of the project site is the non-conforming residential land use located at 953 West Nance Street. However, for the purposes of discussion and disclosure, data for anticipated project operational noise levels at other locations has also been provided, including an existing non-conforming single-family residential land use located 4611 Nevada Avenue and an existing residential building that is currently being utilized for commercial purposes (Auto Aide Towing) located at 845 West Nance Street, just south of the project site and Nance Street.

Based on the operational noise modeling, project operation is expected to range between 48 and 56 dBA CNEL at the nearby receptors and would not exceed the City's General Plan land use compatibility criteria of 65 dBA at nearby commercial properties or 60 dBA CNEL at the existing noise sensitive land uses. (see Table 10/Figure 6).No mitigation is required.

Noise Levels – Lmax

Section 7.34.050 of the City's Noise Ordinance indicates that all noise sources comply with the noise standards provided in Section 7.34.040 of the Noise Ordinance, which prohibits the generation of amplified sound beyond the property line of the property from which the sound emanates that exceeds 80 dBA L_{max} between the hours of 7:01 AM and 10:00 PM or 60 dBA L_{max} between the hours of 10:01 PM and 7:00 AM. Although this ordinance was written to apply to amplified noise, it was used in the study to also evaluate potential impacts associated with the proposed project, i.e., vehicle back-up alarms. For this impact, all adjacent and nearby land uses would be considered.

In order to determine if the proposed project has the potential to exceed either of the above mentioned standards, a point noise source representative of a backup alarm (103 Lw) provided in the SoundPLAN library was utilized to model a maximum noise event at the nearest receptor.

As shown on Figure 7, operational noise levels would not exceed the daytime noise standard of 80 dBA L_{max} but could exceed the nighttime noise standard of 60 dBA L_{max} at the non-conforming residential land use located at 953 West Nance Street. As the 60 dBA L_{max} nighttime standard could be exceeded, the following mitigation measure is required.

Mitigation Measure 2
The use of back up alarms shall be prohibited within 60 feet of the property line of the parcel located at 953 West Nance Street during nighttime hours (10:00 PM – 7:00 AM).

Offsite Operational Noise Sources

California courts have rejected use of what is effectively a single "absolute noise level" threshold of significance (e.g., exceed 65 dBA CNEL) on the grounds that the use of such a threshold fails to consider the magnitude or severity of increases in noise levels attributable to the project in different environments (see *King and Gardiner Farms, LLC v. County of Kern* (2020) 45 Cal.App.5th 814). California courts have also upheld the use of "ambient plus increment" thresholds for assessing project noise impacts as consistent with CEQA,

noting however, that the severity of existing noise levels should not be ignored by incorporating a smaller incremental threshold for areas where existing ambient noise levels were already high (see *Mission Bay Alliance v. Office of Community Investment and Infrastructure* (2016) 6 Cal.App.5th 160).

The City of Perris has adopted a Land Use / Noise Compatibility Guidelines (Table 5). Per these guidelines, noise levels that do not exceed 70 dBA CNEL are considered "normally acceptable" at industrial land uses; noise levels that do not exceed 65 dBA CNEL are considered to be "normally acceptable" at commercial land uses, and noise levels that do not exceed 60 dBA CNEL are considered to be acceptable at single-family residential land uses.

In addition to the City of Perris Land Use / Noise Compatibility Guidelines, the DEIR prepared for the PVCCSP (City of Perris 2011) utilized absolute noise level thresholds to determine the significance of an in increase in ambient noise levels as follows:

A substantial permanent increase at a sensitive receptor location is defined as follows:

- An increase of 3 dBA or more from existing noise levels where the 60 dBA CNEL noise standard for sensitive receptors is exceeded; and/or
- An increase of 5 dBA CNEL or more from existing noise levels at all other sensitive receptor locations.

Per the trip generation and trip distribution data provided in the Traffic Impact Analysis prepared for the project *(Nance Street Trailer Yard Traffic Impact Analysis* (Ganddini Group, Inc., April 18, 2024), new traffic trips associated with the proposed project will utilize West Nance Street and North Webster Avenue. Per the definition provided in the PVCCSP and in Section 16.22.020 of the City of Perris Municipal Code, Existing and Existing Plus Project traffic noise levels were modeled and compared at sensitive noise receptors along W. Nance Street and Webster Avenue. The only sensitive receivers per the definition provided in the PVCCSP and in Section 16.22.020 of the City of Perris Municipal Code, that may be affected by project traffic noise include the existing non-conforming single-family residential land uses located at 953 West Nance Street and the existing residential neighborhood located approximately 1,191 feet southeast of the project site along the eastern side of Webster Avenue. Any non-conforming existing single family residential structures in the project area that are clearly being used as auto towing companies, truck storage yards, or other noise producing commercial or industrial land uses are not considered to be sensitive receptors.

Trip distribution data and Existing and Existing Plus Project trip generation calculations were utilized to calculate the net change in roadway noise levels with the addition of project-generated operational trips to determine the project's potential to result in a substantial increase in noise levels at the sensitive receptors adjacent to West Nance Street (953 Nance Street) and adjacent to North Webster Avenue south of West Nance Street. FHWA Traffic Noise Prediction calculation worksheets are provided in Appendix F.

As shown in Table 11, the modeled Existing traffic noise level along West Nance Street at the existing noise sensitive receptor located at 953 West Nance Street is 57.8 dBA CNEL and the modeled Existing Plus Project noise levels at this location is 60.6 dBA CNEL, resulting in an increase of 2.8 dB. The affected land use is residential and the existing noise level at this location is less than 60 dBA CNEL. Therefore, the applicable threshold is an increase of no more than 5 dB. Project generated vehicle traffic would not result in an increase of ambient noise levels of more than 5 dB. No mitigation is required.

The modeled Existing traffic noise level along North Webster Avenue South of West Nance Street is 68.8 dBA CNEL and the modeled Existing Plus Project noise level at this location is 69.1 dBA CNEL, resulting in an increase of 0.3 dB (Table 11). The affected land use is residential and the existing noise level at this location exceeds 60 dBA CNEL. Therefore, the applicable threshold is an increase of no more than 3 dB. Project generated vehicle traffic would not result in an increase of ambient noise levels by more than 3 dB. No mitigation is required.

GROUNDBORNE VIBRATION IMPACTS

Would the project result in:

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

In relation to the Environmental Checklist noise issue "b", the City of Perris has not established thresholds of significance concerning groundborne vibration. In the absence of City-established thresholds, groundborne vibration impacts are based on guidance from the *Transportation and Construction Vibration Guidance Manual* (California Department of Transportation, 2020) (see Regulatory Setting section). Accordingly, the project would result in a significant impact if:

- Groundborne vibration levels generated by the project have the potential to cause architectural damage at nearby buildings by exceeding the following PPV:
  - 0.08 in/sec at extremely fragile historic buildings, ruins, ancient monuments
  - 0.10 in/sec at fragile buildings
  - 0.25 in/sec at historic and some old buildings
  - 0.30 in/sec at older residential structures
  - 0.50 in/sec at new residential structures and modern industrial/commercial buildings.
- Groundborne vibration levels generated by the project have the potential to cause severe annoyance to people living or working in nearby buildings by exceeding a PPV of 0.4 in/sec.

Groundborne vibration modeling worksheets are provided in Appendix G.

Based on the groundborne vibration modeling (see Table 12), use of a vibratory roller is expected to generate a PPV of 26.25 in/sec and use of a bulldozer is expected to generate a PPV of 11.125 in/sec at the closest off-site building, a commercial structure located adjacent to the southeast of the project site, which would potentially exceed vibration thresholds without mitigation. In addition, at the nearest residential building, approximately 42 feet from the property lines of the southern portions of the project site, use of a vibratory roller is expected to generate a PPV of 0.096 in/sec and use of a bulldozer is expected to generate a PPV of 0.041 in/sec, which would not exceed architectural damage thresholds.

The following measure is recommended to ensure groundborne vibration generated by project construction does not cause architectural damage or severe annoyance to nearby buildings:

Mitigation Measure 3
The use of vibratory rollers, or other similar vibratory equipment, within 15 feet and large bulldozers within 8 feet of commercial structures to the southeast shall be prohibited.

Other equipment anticipated to be used during project construction generate lower PPV. Therefore, groundborne vibration generated by project construction would not exceed the levels necessary to cause architectural damage or severe annoyance to persons living or working in nearby buildings with implementation of Mitigation Measure 3.

The most substantial sources of groundborne vibration during post-construction project operations will include the movement of passenger vehicles and trucks on paved and generally smooth surfaces. Loaded trucks generally have a PPV of 0.076 at a distance of 25 feet (Caltrans 2020), which is a substantially lower PPV than that of a vibratory roller (0.210 in/sec PPV at 25 feet). Therefore, groundborne vibration levels generated by project operation would not exceed those modeled for project construction.

AIR TRAFFIC IMPACTS

Would the project result in:

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?*

The closest airport to the project site is the March Air Reserve Base/Inland Port Airport, with airport runways located as close as approximately 0.41 miles to the north of the project site. Per the March Air Reserve Base/Inland Port Airport Land Use Compatibility Plan (ALUCP) (2014), the project site is located within Compatibility Zones B1 (Inner Approach/Departure Zone) and B2 (High Noise Zone). Figure 4-2 of the Final Air Installations Compatible Use Zones Study for March Air Reserve Base (Air Force Reserve Command) (AICUZ 2018) shows that the project site is located within the airport's 60, 65, and 70 dBA CNEL noise contours. The 2018 AICUZ noise contour map is provided on Figure 8.

Per the 2018 AICUZ the Air Force provides planning contours–noise contours based on reasonable projections of future missions and operations. AICUZ studies using planning contours provide a description of the long-term (5-10 year) aircraft noise environment for projected aircraft operations that is more consistent with the planning horizon used by State, tribal, regional and local planning bodies."

The proposed project is a truck trailer yard consisting of 262 trailer parking spaces, 38 passenger car parking spaces, two 9,900 square foot mechanic bays totaling 19,800 square feet, and two 1,800 square foot office buildings totaling 3,600 square feet. Neither the City of Perris Municipal Code nor the March Air Reserve Base Inland Port ALCUP establish airport noise criteria for industrial land uses. Furthermore, as shown in Table MA-2, Basic Compatibility Criteria, of the March Air Reserve Base Inland Port ALCUP, industrial land uses are considered allowed uses within Zones B1 and B2.

The total square footage proposed by the project includes approximately 3,600 square feet of associated office use. Section 19.51.080 of the City's Municipal Code includes a requirement of 45 dBA CNEL for office space. Section 19.51.080 of the City's Code further states that standard building construction is presumed to provide adequate sound attenuation where the difference between the exterior noise exposure and the interior noise standard is 20 dB or less. Per the Final AICUZ (2018), the portion of the project site where the proposed office uses are to be located is within the airport's 60 to 65 dBA CNEL noise contours. Therefore, with standard building construction, the associated office use would not be anticipated to have airport related noise levels exceeding 45 dBA CNEL.

The project would not expose people residing or working in the project area to excessive noise levels associated with airports. No mitigation is required.

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

Phase	Receptor Location	Construction Noise Levels at Property Line (dBA Leq)	Construction Noise Levels at Property Line (dBA Lmax)	Construction Noise Levels Exceed Daytime 80 dBA Lmax Standard?
Grading	Non-conforming Residential at 4611 Nevada Avenue	70.1	72.7	No
	Non-conforming Residential at 953 W. Nance Street	75.7	95.5	Yes
Building Construction	Non-conforming Residential at 4611 Nevada Avenue	69.9	71.7	No
	Non-conforming Residential at 953 W. Nance Street	75.6	94.5	Yes
Paving	Non-conforming Residential at 4611 Nevada Avenue	64.2	67.7	No
	Non-conforming Residential at 953 W. Nance Street	69.9	90.5	Yes
Architectural Coating	Non-conforming Residential at 4611 Nevada Avenue	56.8	65.7	No
	Non-conforming Residential at 953 W. Nance Street	62.4	88.5	Yes

Notes:
(1) Construction noise worksheets are provided in Appendix D.
(2) Nearest noise measurement as shown in Figure 5 and Table 1.

Table 10
Project Operational Noise Levels

Receptor Location[1]	Existing Measured Noise Levels[2] (dBA CNEL)	Operational Noise Levels[3] (dBA CNEL)	Does Project Noise Exceed 60 dBA CNEL Standard?	Increase in Ambient Noise Levels Due to the Project
R1	54.2	48.0	No	0.0
R2	52.4	56.0	No	+3.6
R3	64.3	52.0	No	0.0

Notes:
1. See Figures 5 and 6.
2. See Table 1.
3. See Figure 6.

Table 11
Increase in Existing Noise Levels Due to Project Generated Vehicle Traffic at Sensitive Receptors

Roadway	Segment	Distance from roadway centerline to ROW (feet)[1]	Adjacent Parcels		Modeled Noise Levels at ROW (dBA CNEL)[2]					
			Zoning	Existing Use	Existing Modeled Noise Level	Existing Plus Project	Change in Noise Level	Applicable Increase Threshold (dB)	Normally Acceptable Standard[3]	Significant Impact?
W. Nance Street	Project Driveway 2 to Project Driveway 3	30	Industrial	Non-Conforming Residential	57.8	60.6	2.8	5.0	60.0	No
Webster Avenue	South of Nance St	47	Industrial	Residential/ Commercial	68.8	69.1	0.3	3.0	60.0	No

Notes:

1. Right-of-way (ROW) per the City of Perris General Plan Circulation Element and Perris Valley Commerce Center Specific Plan.

2. Exterior noise levels calculated 5 feet above pad elevation, perpendicular to subject roadway.

3. Per the City of Perris Land Use Compatibility Guidelines (see Table 5). Where there are two or more uses, the more conservative standard is shown.

Table 12
Construction Vibration Levels at the Nearest Receptors

Receptor Location	Distance from Property Line to Nearest Structure (feet)	Equipment	Vibration Level[1]	Threshold Exceeded?[2]	Vibration Level with Mitigation[1,4]	Threshold Exceeded with Mitigation?
Residential to Northwest (4697 Nevada Avenue, Perris)	249	Vibratory Roller	0.007	No	-	-
	249	Large Bulldozer	0.003	No	-	-
Residential to Adjacent to Southern Portions of Project Site (W Nance Street, Perris)	42	Vibratory Roller	0.096	No	-	-
	42	Large Bulldozer	0.041	No	-	-
Commercial to Southeast (Auto Aide Towing, 845 W Nance Street, Perris)[3]	1	Vibratory Roller	26.250	Yes	0.452	No
	1	Large Bulldozer	11.125	Yes	0.492	No
Commercial to East (IAA-ACE Perris 2, 775 Harley Knox Boulevard, Perris)	655	Vibratory Roller	0.002	No	-	-
	655	Large Bulldozer	0.001	No	-	-

Notes:

1. Vibration levels are provided in PPV in/sec.
2. Caltrans identifies the threshold at which there is a risk to "architectural" damage to older residential structures as 0.3 in/sec PPV and to modern industrial/commercial buildings as 0.5 in/sec PPV (see Table 3).
3. The commercial use to the southeast of the project site has a building adjacent to the eastern property line of the southern portion of the project site. For modeling purposes, a distance of 1 foot was utilized.
4. Mitigation Measure 3 shall prohibit the use of vibratory rollers within 15 feet and large bulldozers within 8 feet of all commercial structures to the southeast of the project site.

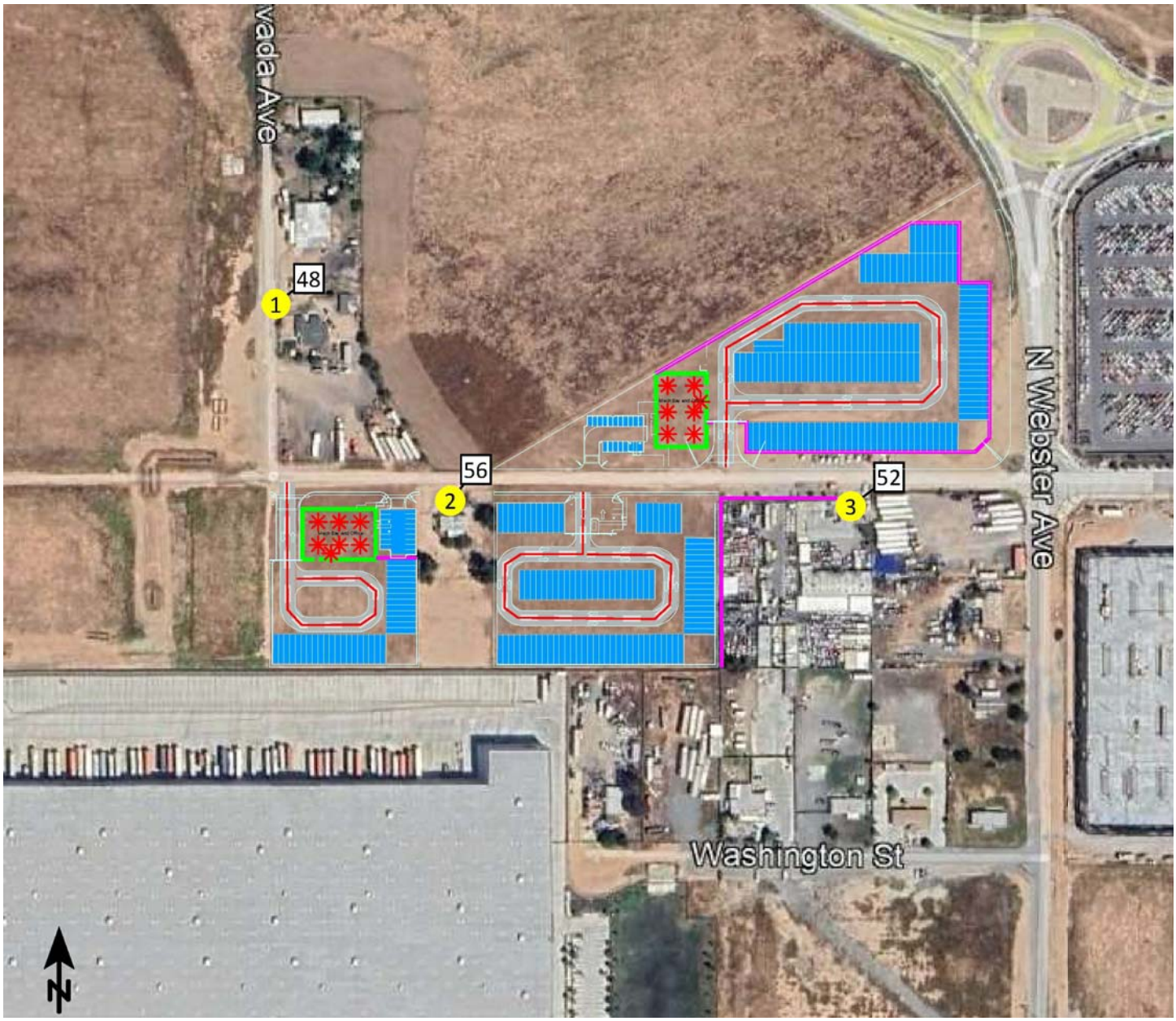
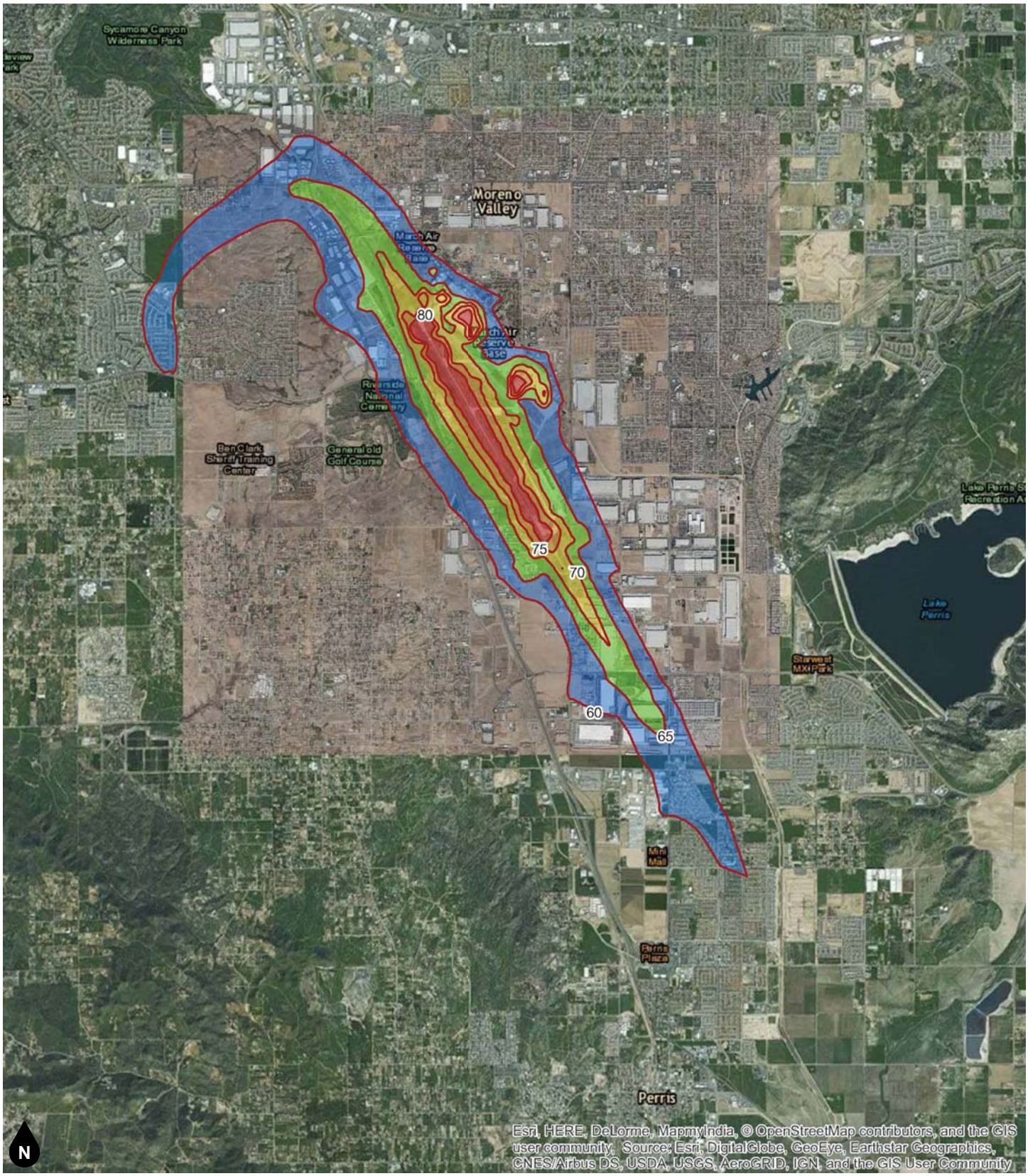


Figure 6
Operational Noise Levels (CNEL)

Figure 7
Operational Noise Levels Lmax



Legend

March ARB 2018 Noise Contours

Noise Contour Levels (CNEL)

60dB 65dB 70dB 75dB 80dB

Figure 8
March ARB 2018 AICUZ Noise Contours

7. REFERENCES

California, State of, Department of Transportation
2020 Transportation and Construction Vibration Guidance Manual. April.

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1974 "Information on Levels of Environmental Noise Requisite to Protect Public Health And Welfare with an Adequate Margin of Safety," EPA/ONAC 550/9-74-004, March 1974.

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2005 City of Perris General Plan. August 30.
2011 Perris Valley Commerce Center Specific Plan Draft Environmental Impact Report. July.
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2001 General Plan, Chapter 4, Figure C-3 "Link Volume Capacities/Level of Service for Riverside County Roadways".
2009 County of Riverside Industrial Hygiene Guidelines for Determining and Mitigating Traffic Noise Impacts to Residential Structures and County.

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2006 FHWA Roadway Construction Noise Model User's Guide. January.

APPENDICES

Appendix A List of Acronyms
Appendix B Glossary
Appendix C Noise Measurement Field Worksheets
Appendix D Construction Noise Model Worksheets
Appendix E SoundPLAN Worksheets
Appendix F FHWA Traffic Noise Model Worksheets
Appendix G Groundborne Vibration Worksheets

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)
Lp	Sound pressure level
LOS C	Level of Service C
Lw	Sound Power Level
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. L_{min} 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: Nance Street Trailer Yard Project, City of Perris **Date:** February 15, 2023

Project #: 19599

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

Nearest Address or Cross Street: 4611 Nevada Ave, Perris, CA 92571

Site Description (Type of Existing Land Use and any other notable features): Measurement Site: Just W of frontyard to residence 4611 Nevada Ave, Perris. Adjacent: Nevada ave to west w/ vacant land further west, a residential use to east, Harly Knox Blvd (running E-W) ~1,000' N, Webster Ave (running N-S) ~1,300' E, & March ARB runway ~3,000' N of STNM1.

Weather: Mostly clear skies,, sunny. Sunset: 5:35 PM **Settings:** SLOW FAST

Temperature: 53 deg F **Wind:** 10 mph **Humidity:** 24% **Terrain:** Flat

Start Time: 1:15 PM **End Time:** 1:30 PM **Run Time:**

Leq: 54.2 dB **Primary Noise Source:** Traffic ambiance from vehicles traveling along Harley Knox Blvd ~1,000' N of STNM1.

Lmax 67..0 dB

L2 59.3 dB **Secondary Noise Sources:** Traffic ambiance from vehicles on other roads. Overhead air traffic.

L8 56.9 dB Bird song. Leaf rustle from 10mph breeze. Some residential ambiance. Hen house.

L25 54.5 dB

L50 52.9 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:	2/15/2023		

Noise Measurement
Field Data

PHOTOS:

STNM1 looking E towards frontyard of residence 4611 Nevada Ave, Perris.

STNM1 looking N up Nevada Ave towards Harly Knox Boulevard intersection (~1,000').

Summary	
File Name on Meter	LxT_Data.196.s
File Name on PC	LxT_0003099-20230215 131508-LxT_Data.196.ldbin
Serial Number	0003099
Model	SoundTrack LxT®
Firmware Version	2.404
User	Ian Edward Gallagher
Location	STNM1 33°51'22.32"N 117°14'53.52"W
Job Description	15 minute noise measurement (1 x 15 minutes)
Note	Ganddini Project 19599, Nance Streer Trailer Yard - City of Perris

Measurement	
Start	2023-02-15 13:15:08
Stop	2023-02-15 13:30:08
Duration	00:15:00.0
Run Time	00:15:00.0
Pause	00:00:00.0
Pre-Calibration	2023-02-15 13:11:33
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	C Weighting
OBA Max Spectrum	At LMax
Overload	122.6 dB

Results			
LA_{eq}	54.2		
LAE	83.7		
EA	26.161	µPa²h	
EA8	837.153	µPa²h	
EA40	4.186	mPa²h	
$LA_{peak\ (max)}$	2023-02-15 13:20:43	89.9	dB
LAS_{max}	2023-02-15 13:16:52	67.0	dB
LAS_{min}	2023-02-15 13:25:29	47.8	dB

		Statistics	
LC_{eq}	77.7 dB	**LA2.00**	59.3 dB
LA_{eq}	54.2 dB	**LA8.00**	56.9 dB
LC_{eq} - LA_{eq}	23.5 dB	**LA25.00**	54.5 dB
LAI_{eq}	57.8 dB	**LA50.00**	52.9 dB
LA_{eq}	54.2 dB	**LA66.60**	51.9 dB
LAI_{eq} - LA_{eq}	3.6 dB	**LA90.00**	50.3 dB
Overload Count	0		

Measurement Report

Report Summary

Meter's File Name	LxT_Data.196.s	Computer's File Name	LxT_0003099-20230215 131508-LxT_Data.196.ldbin
Meter	LxT1 0003099		
Firmware	2.404		
User	Ian Edward Gallagher	Location	STNM1 33°51'22.32"N 117°14'53.52"W
Job Description	15 minute noise measurement (1 x 15 minutes)		
Note	Ganddini Project 19599, Nance Streer Trailor Yard - City of Perris		
Start Time	2023-02-15 13:15:08	Duration	0:15:00.0
End Time	2023-02-15 13:30:08	Run Time	0:15:00.0
Pause Time	0:00:00.0		

Results

Overall Metrics

LA_{eq}	54.2 dB		
LAE	83.7 dB	SEA	--- dB
EA	26.2 µPa²h	LAFTM5	59.5 dB
EA8	837.2 µPa²h		
EA40	4.2 mPa²h		
LA_{peak}	89.9 dB	2023-02-15 13:20:43	
LAS_{max}	67.0 dB	2023-02-15 13:16:52	
LAS_{min}	47.8 dB	2023-02-15 13:25:29	
LA_{eq}	54.2 dB		
LC_{eq}	77.7 dB	LC_{eq} - LA_{eq}	23.5 dB
LAI_{eq}	57.8 dB	LAI_{eq} - LA_{eq}	3.6 dB

Exceedances	Count	Duration
LAS > 65.0 dB	1	0:00:04.10
LAS > 85.0 dB	0	0:00:00.0
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

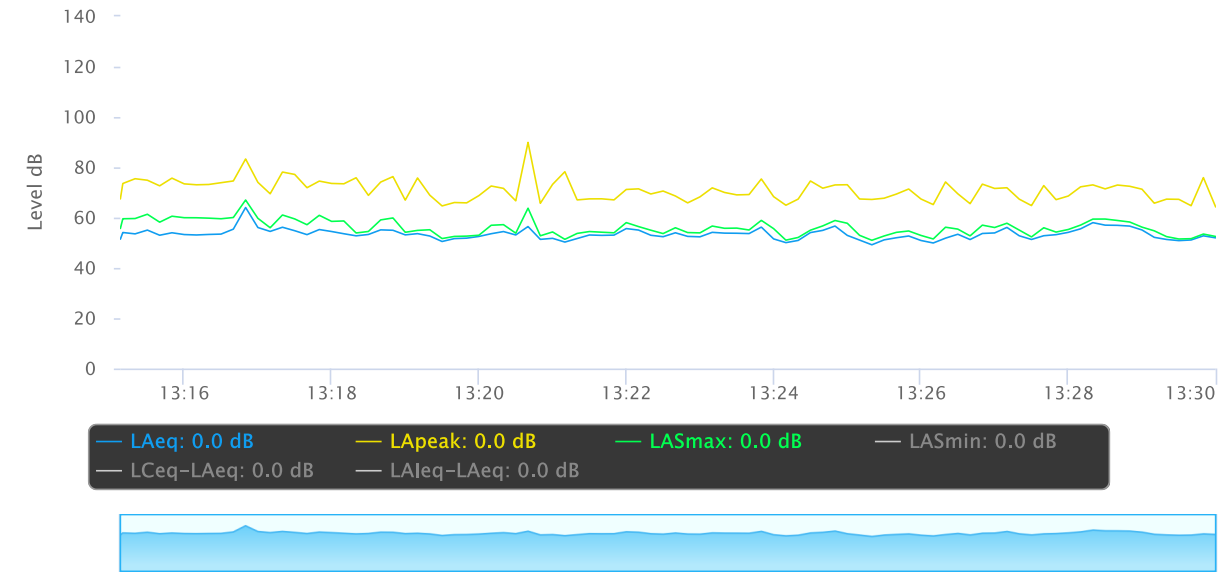
Any Data	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L_{eq}	54.2 dB		77.7 dB		--- dB	
$L_{S(max)}$	67.0 dB	2023-02-15 13:16:52	--- dB		--- dB	
$L_{S(min)}$	47.8 dB	2023-02-15 13:25:29	--- dB		--- dB	
$L_{Peak(max)}$	89.9 dB	2023-02-15 13:20:43	--- dB		--- dB	

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

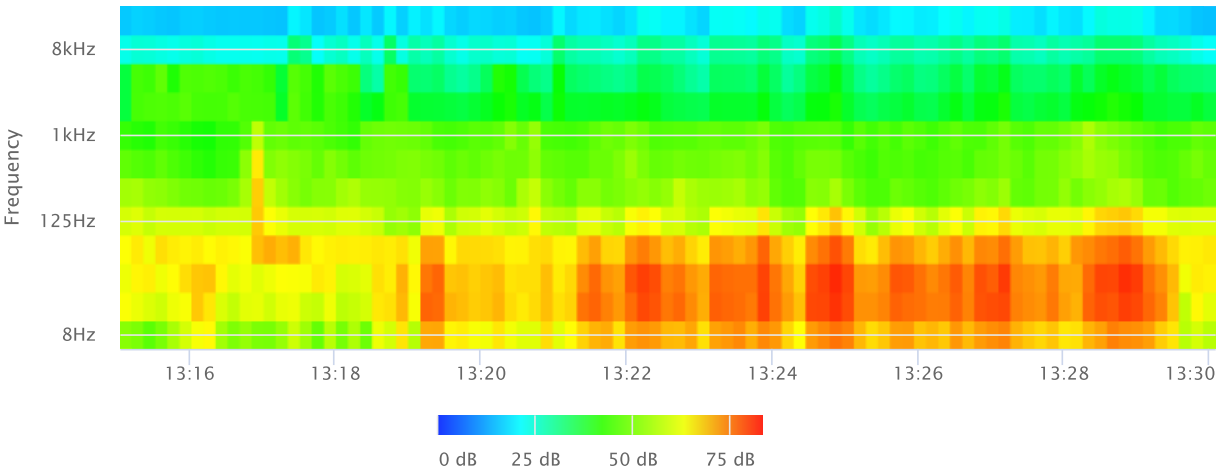
Statistics

LAS 2.0	59.3 dB
LAS 8.0	56.9 dB
LAS 25.0	54.5 dB
LAS 50.0	52.9 dB
LAS 66.6	51.9 dB
LAS 90.0	50.3 dB

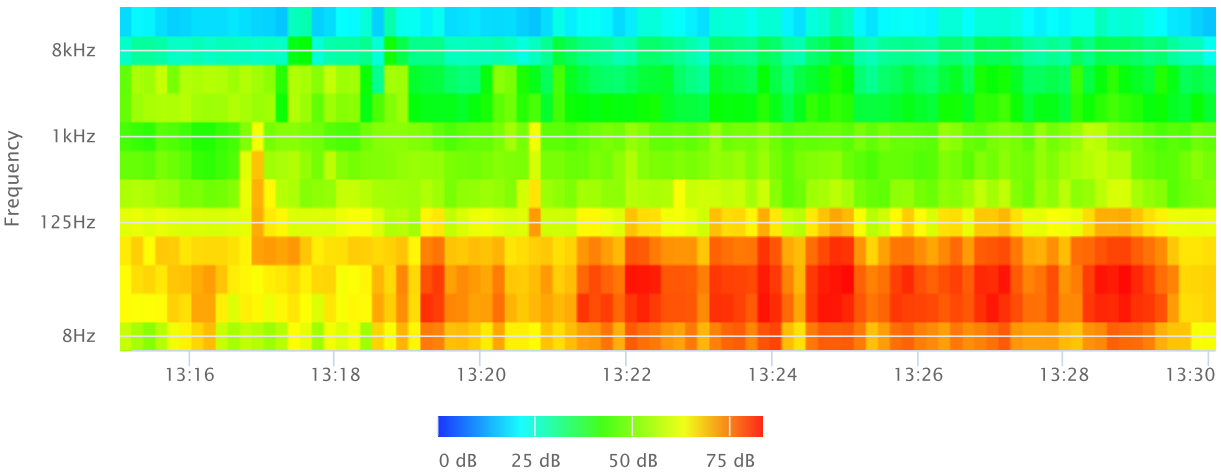
Time History



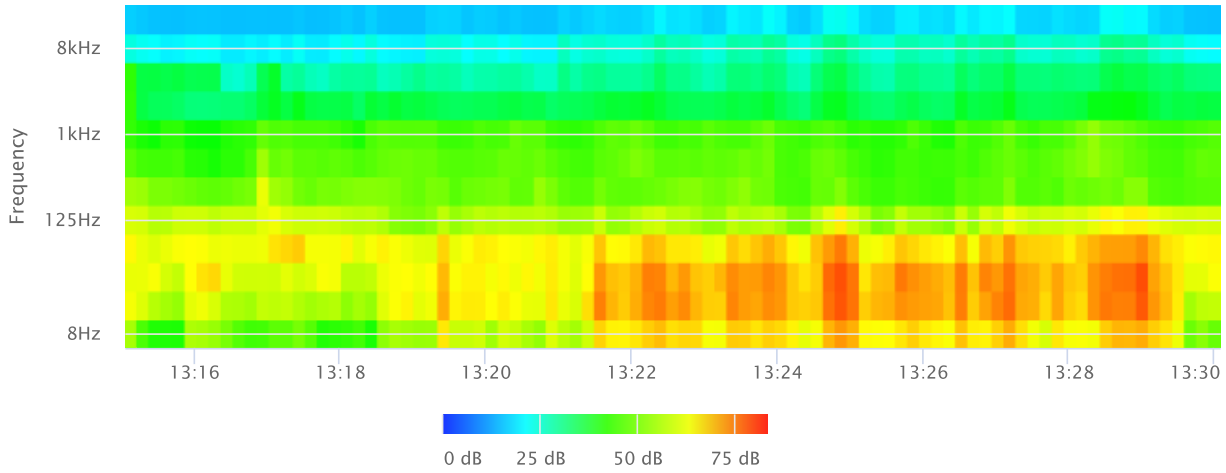
OBA 1/1 Leq



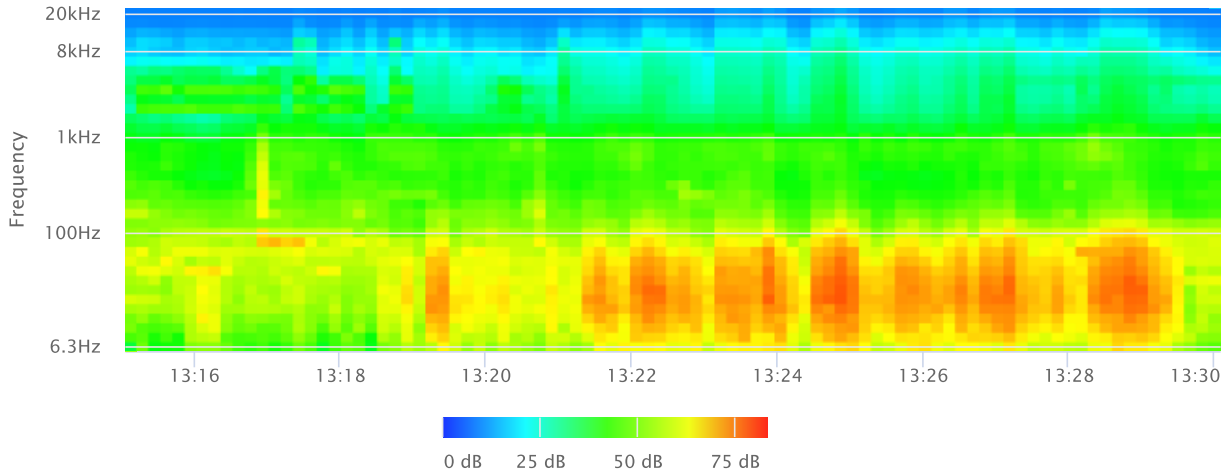
OBA 1/1 Lmax



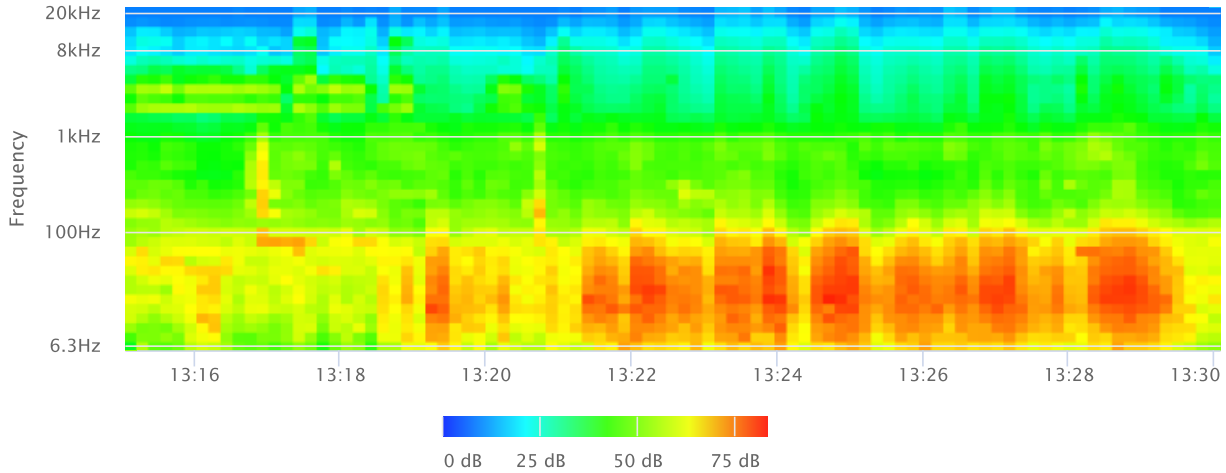
OBA 1/1 Lmin



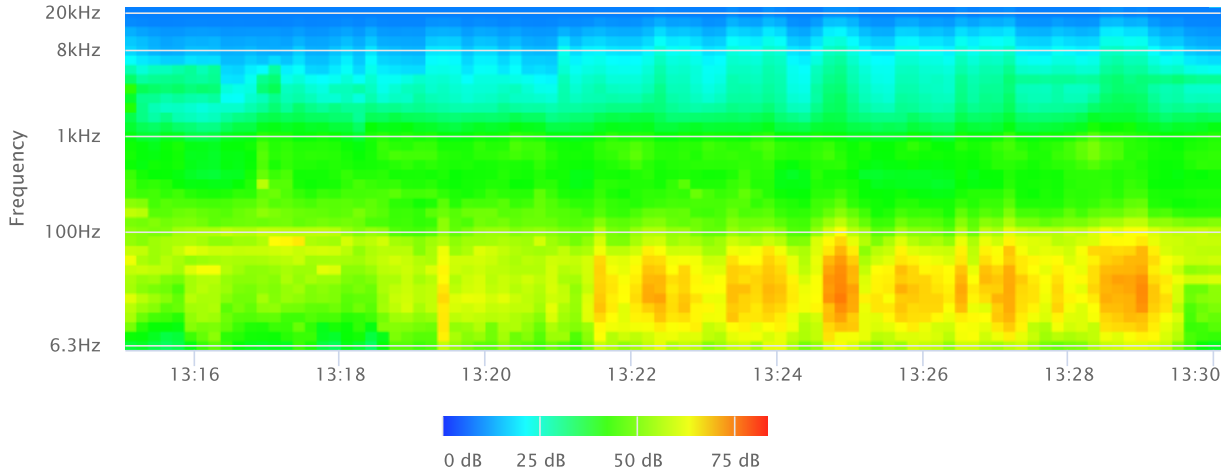
OBA 1/3 Leq



OBA 1/3 Lmax



OBA 1/3 Lmin


20kHz
8kHz
1kHz
100Hz
6.3Hz
Frequency
13:16
13:18
13:20
13:22
13:24
13:26
13:28
13:30
0 dB
25 dB
50 dB
75 dB

Noise Measurement
Field Data

Project Name: Nance Street Trailer Yard Project, City of Perris **Date:** February 15, 2023

Project #: 19599

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

Nearest Address or Cross Street: 953 W Nance Street, Perris, CA 92571

Site Description (Type of Existing Land Use and any other notable features): Measurement Site: Just N of frontyard to residence 953 W Nance St, Perris.
Adjacent: Nance St to north w/ vacant land/project site further north, empty residence to the S, Harly Knox Blvd (running E-W) ~1,200' N, Webster Avenue (running N-S) ~900' E. March ARB runway ~3,000' N of STNM2.

Weather: Mostly clear skies,, sunny. Sunset: 5:35 PM **Settings:** SLOW FAST

Temperature: 53 deg F **Wind:** 10 mph **Humidity:** 24% **Terrain:** Flat

Start Time: 1:57 PM **End Time:** 2:12 PM **Run Time:**

Leq: 52.4 dB **Primary Noise Source:** Traffic ambiance from vehicles traveling along Harley Knox Blvd (~1,200' N of STNM2).

Lmax 61.9 dB

L2 56.0 dB **Secondary Noise Sources:** Traffic ambiance from vehicles on other roads. Overhead air traffic. Bird song. Leaf rustle from 10mph breeze.

L8 54.3 dB

L25 53.2 dB

L50 51.9 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:	2/15/2023		

Noise Measurement
Field Data

PHOTOS:

STNM2 looking SW across frontyard of residence 953 W Nance Street, Perris.

STNM2 looking E down Nance Street towards Webster Avenue intersection (~920'). Residence 953 W Nance Street, Perris on right of image.

Summary	
File Name on Meter	LxT_Data.197.s
File Name on PC	LxT_0003099-20230215 135745-LxT_Data.197.ldbin
Serial Number	3099
Model	SoundTrack LxT®
Firmware Version	2.404
User	Ian Edward Gallagher
Location	STNM2 33°51'19.62"N 117°14'49.16"W
Job Description	15 minute noise measurement (1 x 15 minutes)
Note	Ganddini Project 19599, Nance Streer Trailor Yard - City of Perris

Measurement	
Start	2023-02-15 13:57:45
Stop	2023-02-15 14:12:45
Duration	00:15:00.0
Run Time	00:15:00.0
Pause	00:00:00.0
Pre-Calibration	2023-02-15 13:57:17
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	C Weighting
OBA Max Spectrum	At LMax
Overload	122.6 dB

Results		
L_{Aeq}	52.4	
LAE	81.9	
EA	17.30819	µPa²h
EA8	553.8621	µPa²h
EA40	2.76931	mPa²h
$L_{Apeak\ (max)}$	2023-02-15 13:58:47	89.3 dB
L_{ASmax}	2023-02-15 14:08:20	61.9 dB
L_{ASmin}	2023-02-15 14:00:40	47.5 dB

		Statistics	
L_{Ceq}	74.8 dB	**LA2.00**	56.0 dB
L_{Aeq}	52.4 dB	**LA8.00**	54.3 dB
L_{Ceq} - L_{Aeq}	22.4 dB	**LA25.00**	53.2 dB
L_{AIeq}	54.3 dB	**LA50.00**	51.9 dB
L_{Aeq}	52.4 dB	**LA66.60**	51.1 dB
L_{AIeq} - L_{Aeq}	2.0 dB	**LA90.00**	49.8 dB
Overload Count	0		

Measurement Report

Report Summary

Meter's File Name	LxT_Data.197.s	Computer's File Name	LxT_0003099-20230215 135745-LxT_Data.197.ldbin
Meter	LxT1 0003099		
Firmware	2.404		
User	Ian Edward Gallagher	Location	STNM2 33°51'19.62"N 117°14'49.16"W
Job Description	15 minute noise measurement (1 x 15 minutes)		
Note	Ganddini Project 19599, Nance Streer Trailor Yard - City of Perris		
Start Time	2023-02-15 13:57:45	Duration	0:15:00.0
End Time	2023-02-15 14:12:45	Run Time	0:15:00.0
Pause Time	0:00:00.0		

Results

Overall Metrics

LA_{eq}	52.4 dB		
LAE	81.9 dB	SEA	--- dB
EA	17.3 µPa²h	LAFTM5	55.6 dB
EA8	553.9 µPa²h		
EA40	2.8 mPa²h		
LA_{peak}	89.3 dB	2023-02-15 13:58:47	
LAS_{max}	61.9 dB	2023-02-15 14:08:20	
LAS_{min}	47.5 dB	2023-02-15 14:00:40	
LA_{eq}	52.4 dB		
LC_{eq}	74.8 dB	LC_{eq} - LA_{eq}	22.4 dB
LAI_{eq}	54.3 dB	LAI_{eq} - LA_{eq}	2.0 dB

Exceedances

	Count	Duration
LAS > 65.0 dB	0	0:00:00.0
LAS > 85.0 dB	0	0:00:00.0
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}	52.4 dB		74.8 dB		--- dB	
$L_{S(max)}$	61.9 dB	2023-02-15 14:08:20	--- dB		--- dB	
$L_{S(min)}$	47.5 dB	2023-02-15 14:00:40	--- dB		--- dB	
$L_{Peak(max)}$	89.3 dB	2023-02-15 13:58:47	--- dB		--- dB	

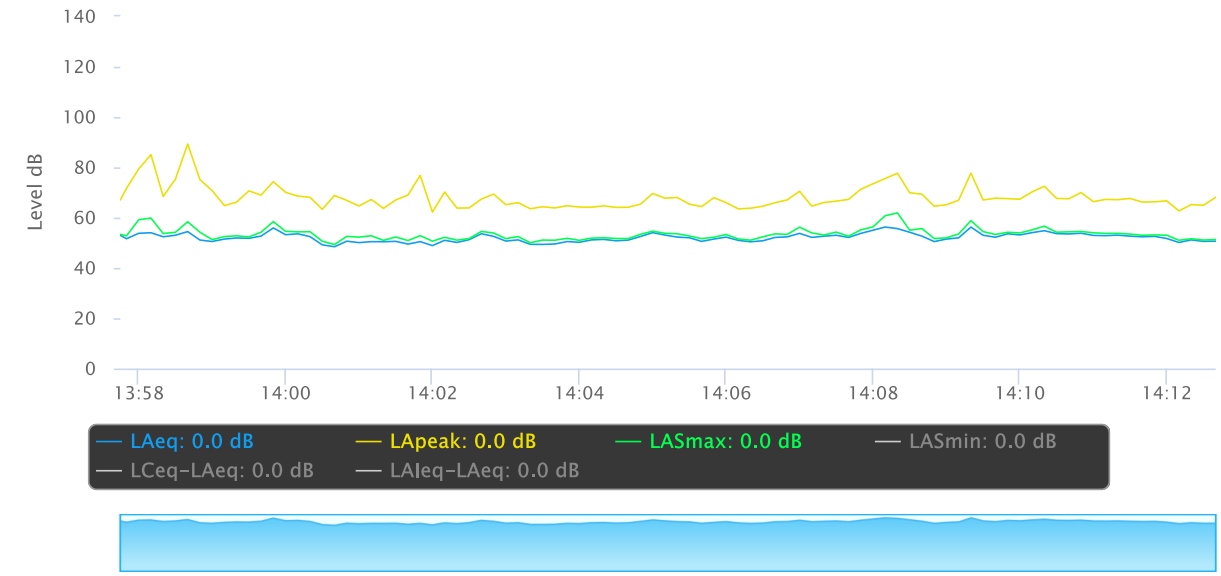
Overloads

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

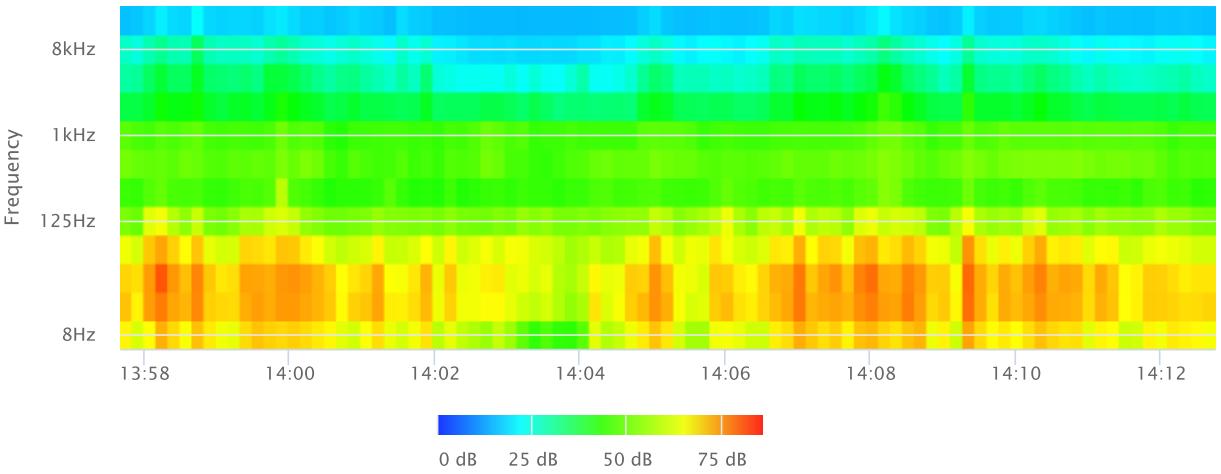
Statistics

LAS 2.0	56.0 dB
LAS 8.0	54.3 dB
LAS 25.0	53.2 dB
LAS 50.0	51.9 dB
LAS 66.6	51.1 dB
LAS 90.0	49.8 dB

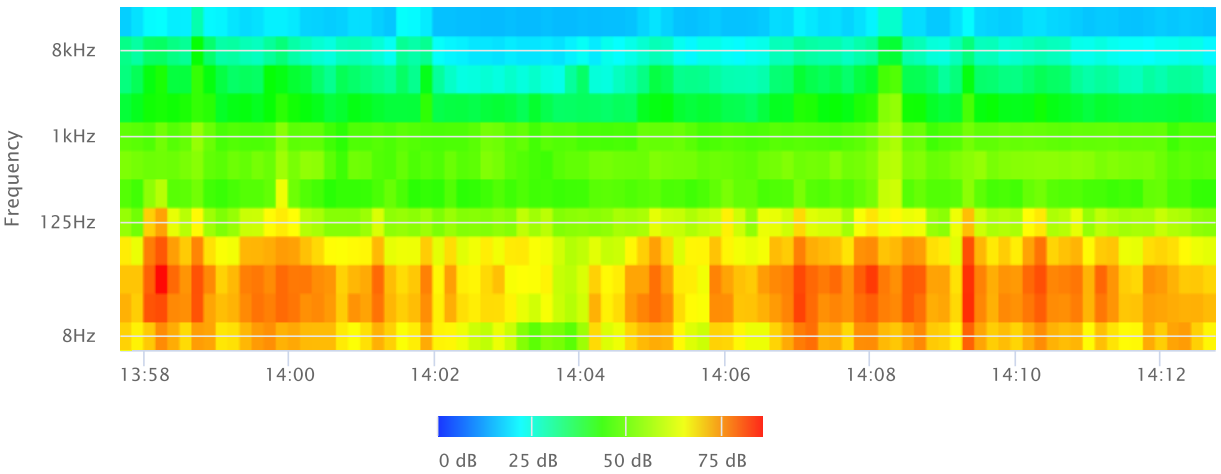
Time History



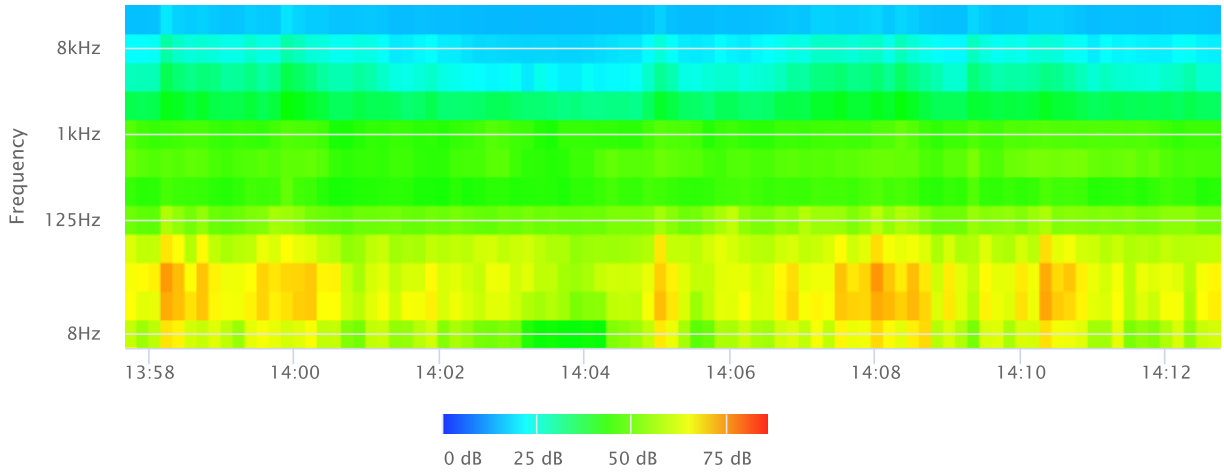
OBA 1/1 Leq



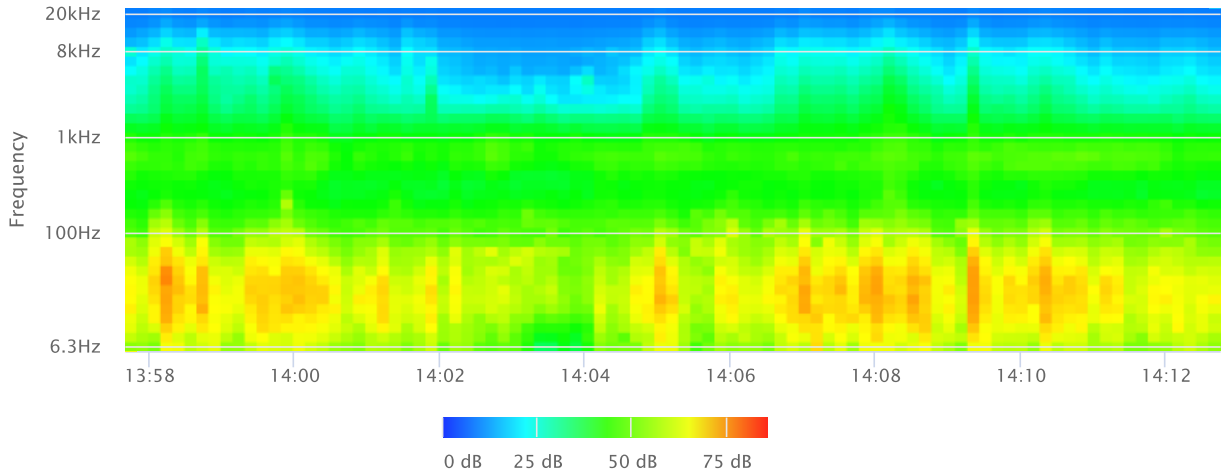
OBA 1/1 Lmax



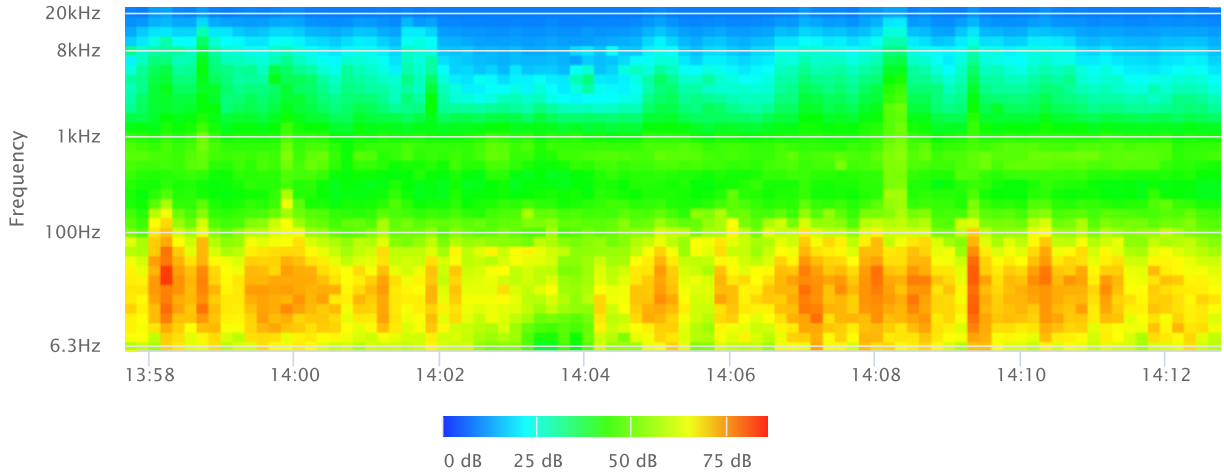
OBA 1/1 Lmin



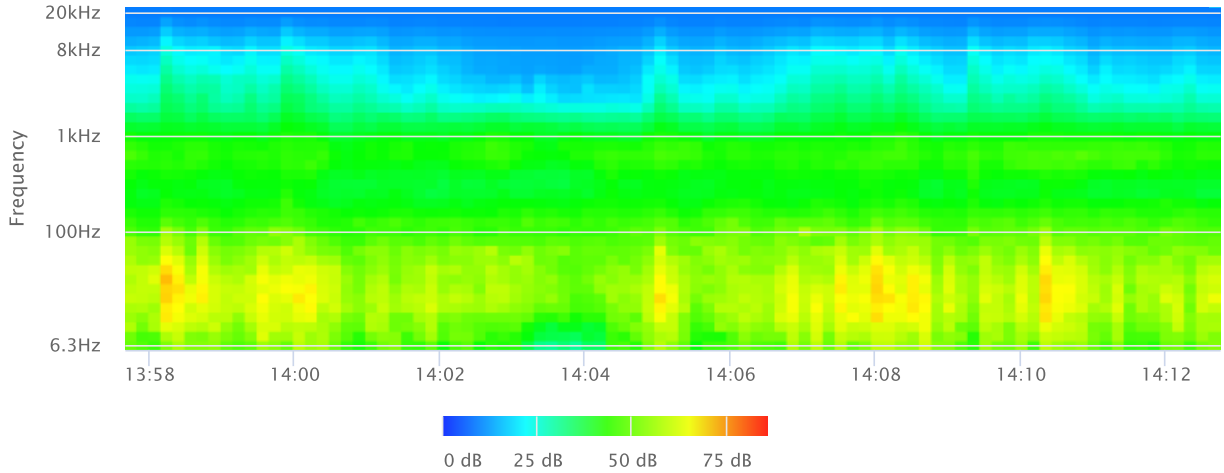
OBA 1/3 Leq



OBA 1/3 Lmax



OBA 1/3 Lmin


20kHz
8kHz
1kHz
100Hz
6.3Hz
Frequency
13:58
14:00
14:02
14:04
14:06
14:08
14:10
14:12
0 dB
25 dB
50 dB
75 dB

Noise Measurement
Field Data

Project Name: Nance Street Trail3r Yard Project, City of Perris **Date:** February 15, 2023

Project #: 19599

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

Nearest Address or Cross Street: 845 W Nance Street, Perris, CA 92571

Site Description (Type of Existing Land Use and any other notable features): Measurement Site: On northern side of Perris Blvd, just north of 845 W Nance St, Perris. Adjacent: Vacant project site to north, Nance St to south w/ towing business further south, Harly Knox Blvd (running E-W) ~700' north, Webster Ave (running N-S) ~300' east. March ARB runway ~3,000' north of STNM3.

Weather: Mostly clear skies,, sunny. Sunset: 5:35 PM **Settings:** SLOW FAST

Temperature: 53 deg F **Wind:** 10 mph **Humidity:** 24% **Terrain:** Flat

Start Time: 2:28 PM **End Time:** 2:43 PM **Run Time:**

Leq: 64.3 dB

Lmax 81.8 dB

L2 75.6 dB

L8 65.9 dB

L25 60.8 dB

L50 58.8 dB

Primary Noise Source: Traffic ambiance from vehicles traveling along Harley Knox Blvd (~700' N of STNM3). 6 vehicles passed microphone on Nance St during measurement.

Secondary Noise Sources: Traffic ambiance from vehicles on other roads. Overhead air traffic. Bird song. Leaf rustle from 10 mph breeze.

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:	2/15/2023		

Noise Measurement
Field Data

PHOTOS:

STNM3 looking S across Nance Street towards 845 W Nance Street, Perris.

STNM3 looking N from Nance Street across site area towards Harley Knox Boulevard (~700') . S edge of site area used for storage of towing vehicles.

Summary	
File Name on Meter	LxT_Data.198.s
File Name on PC	LxT_0003099-20230215 142858-LxT_Data.198.ldbin
Serial Number	3099
Model	SoundTrack LxT®
Firmware Version	2.404
User	Ian Edward Gallagher
Location	STNM3 33°51'20.09"N 117°14'41.35"W
Job Description	15 minute noise measurement (1 x 15 minutes)
Note	Ganddini Project 19599, Nance Streer Trailer Yard - City of Perris

Measurement	
Start	2023-02-15 14:28:58
Stop	2023-02-15 14:43:58
Duration	00:15:00.0
Run Time	00:15:00.0
Pause	00:00:00.0
Pre-Calibration	2023-02-15 14:28:37
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	C Weighting
OBA Max Spectrum	At LMax
Overload	122.5 dB

Results			
LA_{eq}	64.3		
LAE	93.9		
EA	270.2499 µPa²h		
EA8	8.647996 mPa²h		
EA40	43.23998 mPa²h		
$LA_{peak\ (max)}$	2023-02-15 14:41:04	94.3 dB	
LAS_{max}	2023-02-15 14:42:46	81.8 dB	
LAS_{min}	2023-02-15 14:37:13	51.0 dB	

		Statistics	
LC_{eq}	79.3 dB	**LA2.00**	75.6 dB
LA_{eq}	64.3 dB	**LA8.00**	65.9 dB
LC_{eq} - LA_{eq}	15.0 dB	**LA25.00**	60.8 dB
LAI_{eq}	67.4 dB	**LA50.00**	58.8 dB
LA_{eq}	64.3 dB	**LA66.60**	55.9 dB
LAI_{eq} - LA_{eq}	3.1 dB	**LA90.00**	53.9 dB
Overload Count	0		

Measurement Report

Report Summary

Meter's File Name	LxT_Data.198.s	Computer's File Name	LxT_0003099-20230215 142858-LxT_Data.198.ldbin
Meter	LxT1 0003099		
Firmware	2.404		
User	Ian Edward Gallagher	Location	STNM3 33°51'20.09"N 117°14'41.35"W
Job Description	15 minute noise measurement (1 x 15 minutes)		
Note	Ganddini Project 19599, Nance Streer Trailor Yard - City of Perris		
Start Time	2023-02-15 14:28:58	Duration	0:15:00.0
End Time	2023-02-15 14:43:58	Run Time	0:15:00.0
Pause Time	0:00:00.0		

Results

Overall Metrics

LA_{eq}	64.3 dB		
LAE	93.9 dB	SEA	--- dB
EA	270.2 µPa²h	LAFTM5	69.5 dB
EA8	8.6 mPa²h		
EA40	43.2 mPa²h		
LA_{peak}	94.3 dB	2023-02-15 14:41:04	
LAS_{max}	81.8 dB	2023-02-15 14:42:46	
LAS_{min}	51.0 dB	2023-02-15 14:37:13	
LA_{eq}	64.3 dB		
LC_{eq}	79.3 dB	LC_{eq} - LA_{eq}	15.0 dB
LAI_{eq}	67.4 dB	LAI_{eq} - LA_{eq}	3.1 dB

Exceedances	Count	Duration
LAS > 65.0 dB	10	0:01:51.1
LAS > 85.0 dB	0	0:00:00.0
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

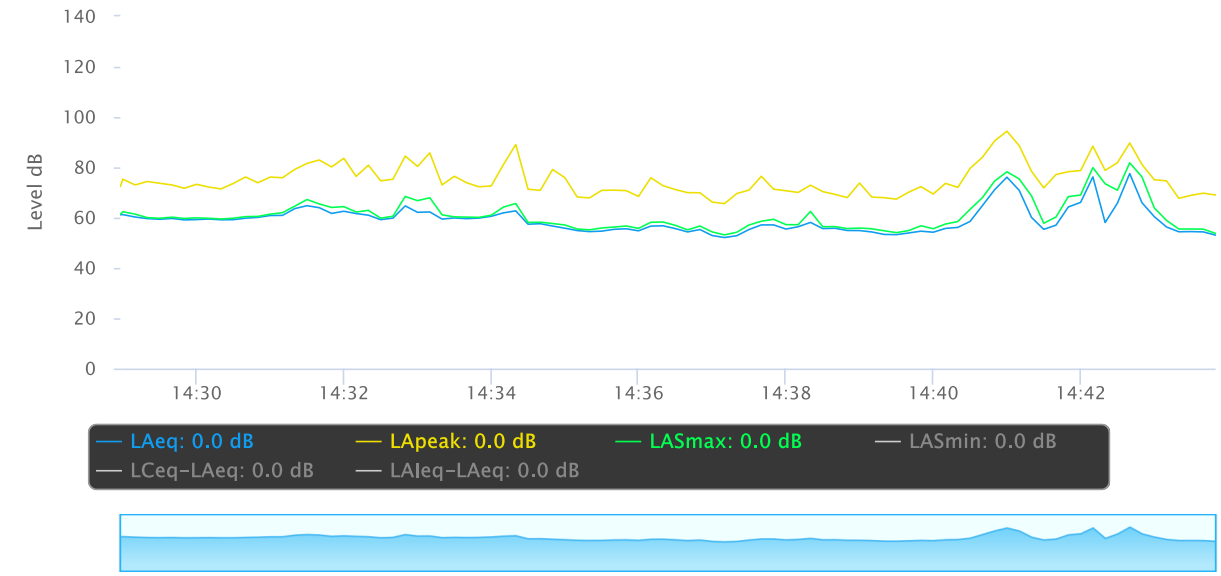
Any Data	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L_{eq}	64.3 dB		79.3 dB		--- dB	
$L_{S(max)}$	81.8 dB	2023-02-15 14:42:46	--- dB		--- dB	
$L_{S(min)}$	51.0 dB	2023-02-15 14:37:13	--- dB		--- dB	
$L_{Peak(max)}$	94.3 dB	2023-02-15 14:41:04	--- dB		--- dB	

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

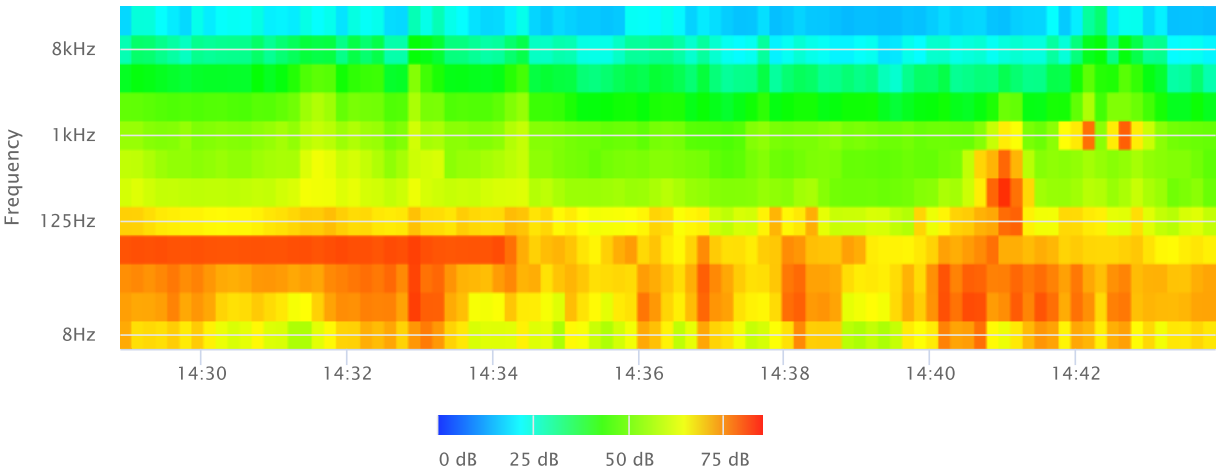
Statistics

LAS 2.0	75.6 dB
LAS 8.0	65.9 dB
LAS 25.0	60.8 dB
LAS 50.0	58.8 dB
LAS 66.6	55.9 dB
LAS 90.0	53.9 dB

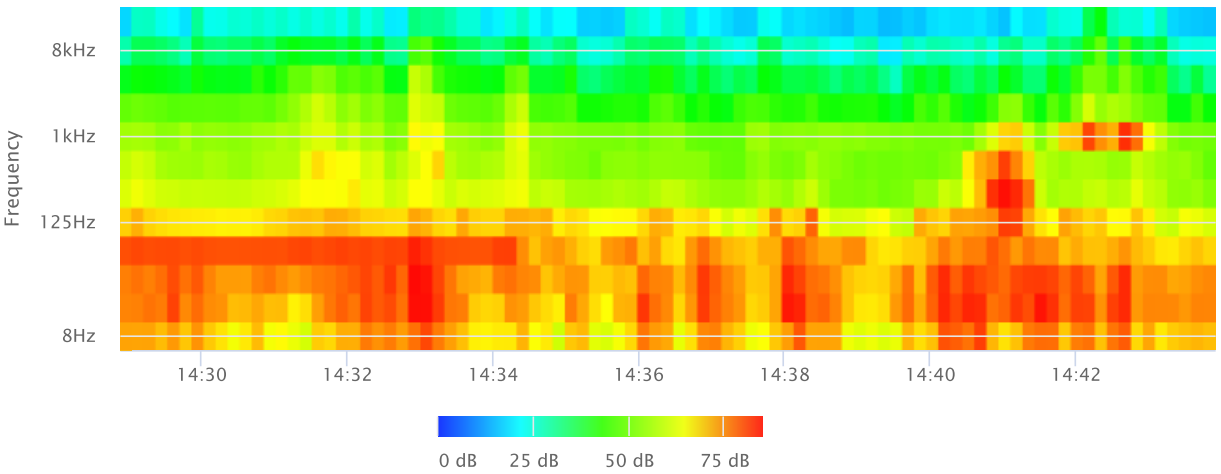
Time History



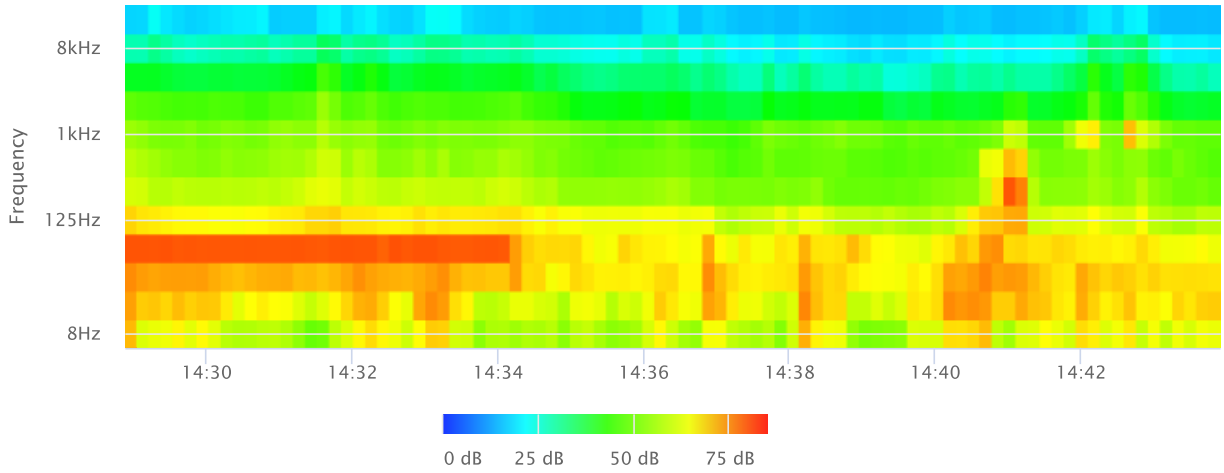
OBA 1/1 Leq



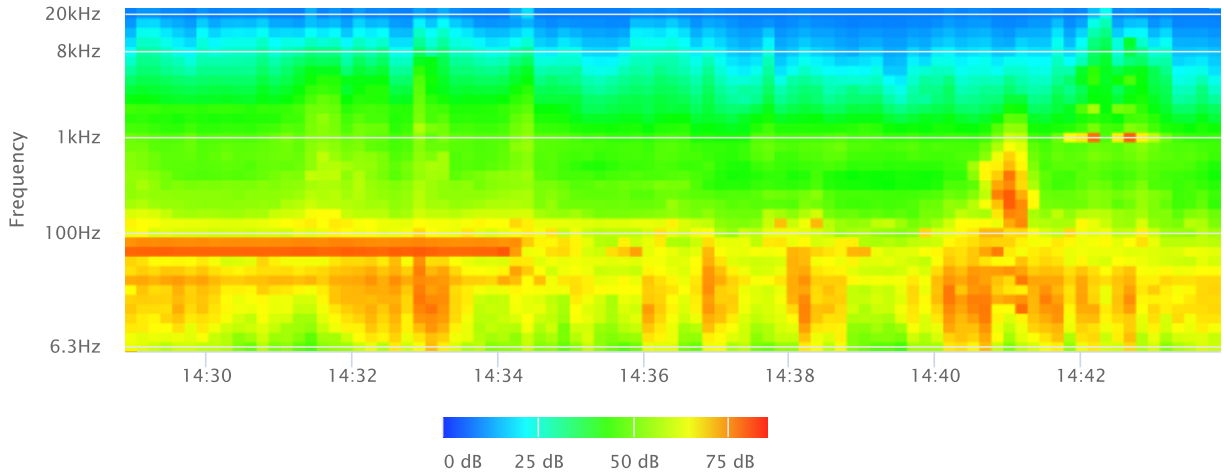
OBA 1/1 Lmax



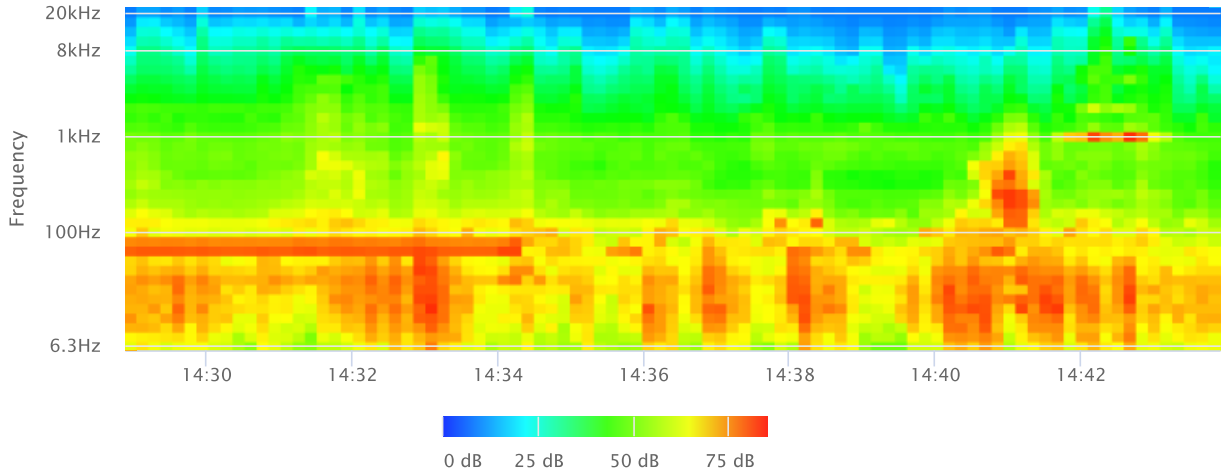
OBA 1/1 Lmin



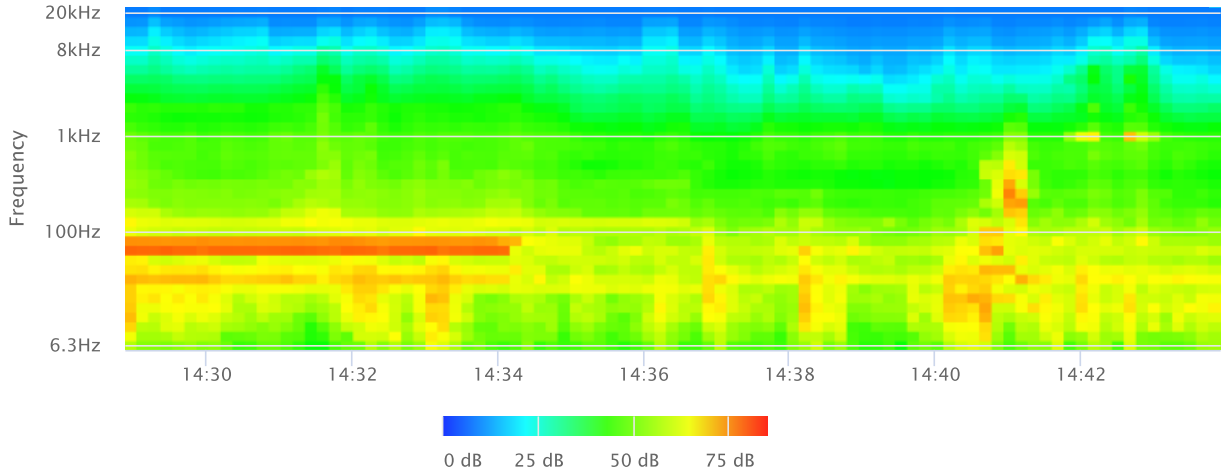
OBA 1/3 Leq



OBA 1/3 Lmax



OBA 1/3 Lmin


20kHz
8kHz
1kHz
100Hz
6.3Hz
Frequency
14:30
14:32
14:34
14:36
14:38
14:40
14:42
0 dB
25 dB
50 dB
75 dB

Noise Measurement
Field Data

Project Name: Nance Street Trailer Yard Project, City of Perris **Date:** February 15, 2023

Project #: 19599

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

Nearest Address or Cross Street: Webster Avenue & Harley Knox Boulevard, ~340' S of traffic circle

Site Description (Type of Existing Land Use and any other notable features): Measurement Site: Along eastern boundary of site just west of Webster Ave.
Adjacent: Vacant project site to west, Nance St ~240' to south, Webester Ave adjacent to east w/ car auction lot further east, Harly Knox Blvd (running E-W) ~340' north, & south end of March ARB runway ~3,000' N of STNM4.

Weather: Mostly clear skies,, sunny. Sunset: 5:35 PM **Settings:** SLOW FAST

Temperature: 53 deg F **Wind:** 10 mph **Humidity:** 24% **Terrain:** Flat

Start Time: 2:56 PM **End Time:** 3:11 PM **Run Time:**

Leq:	62.8	dB	**Primary Noise Source:** Traffic noise from the 44 vehicles traveling along Webster Ave just E of STNM4.
Lmax	79.6	dB	Traffic ambiance from vehicles traveling along Harley Knox Boulevard.
L2	71.6	dB	**Secondary Noise Sources:** Traffic ambiance from vehicles on other roads. Overhead air traffic.
L8	66.8	dB	Bird song. Leaf rustle from 10 mph breeze.
L25	60.9	dB	
L50	75.6	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:	2/15/2023		

Noise Measurement
Field Data

PHOTOS:

STNM4 looking N along Webster Avenue towards traffic circle (~340') intersecting with Harly Knox Boulevard.

STNM4 looking SSE along Webster Ave towards Nance Street Intersection (traffic lights ~240').

Summary	
File Name on Meter	LxT_Data.199.s
File Name on PC	LxT_0003099-20230215 145656-LxT_Data.199.ldbin
Serial Number	3099
Model	SoundTrack LxT®
Firmware Version	2.404
User	Ian Edward Gallagher
Location	STNM4 33°51'22.20"N 117°14'38.44"W
Job Description	15 minute noise measurement (1 x 15 minutes)
Note	Ganddini Project 19599, Nance Streer Trailer Yard - City of Perris

Measurement	
Start	2023-02-15 14:56:56
Stop	2023-02-15 15:11:56
Duration	00:15:00.0
Run Time	00:15:00.0
Pause	00:00:00.0
Pre-Calibration	2023-02-15 14:56:21
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	C Weighting
OBA Max Spectrum	At LMax
Overload	122.6 dB

Results			
LA_{eq}	62.8		
LAE	92.4		
EA	191.944	µPa²h	
EA8	6.142208	mPa²h	
EA40	30.71103	mPa²h	
$LA_{peak\ (max)}$	2023-02-15 15:00:38	96.4	dB
LAS_{max}	2023-02-15 15:00:38	79.6	dB
LAS_{min}	2023-02-15 15:07:37	50.1	dB

			Statistics		
LC_{eq}	79.2	dB	**LA2.00**	71.6	dB
LA_{eq}	62.8	dB	**LA8.00**	66.8	dB
LC_{eq} - LA_{eq}	16.4	dB	**LA25.00**	60.9	dB
LAI_{eq}	64.6	dB	**LA50.00**	57.6	dB
LA_{eq}	62.8	dB	**LA66.60**	55.9	dB
LAI_{eq} - LA_{eq}	1.8	dB	**LA90.00**	53.2	dB
Overload Count	0				

Measurement Report

Report Summary

Meter's File Name	LxT_Data.199.s	Computer's File Name	LxT_0003099-20230215 145656-LxT_Data.199.ldbin
Meter	LxT1 0003099		
Firmware	2.404		
User	Ian Edward Gallagher	Location	STNM4 33°51'22.20"N 117°14'38.44"W
Job Description	15 minute noise measurement (1 x 15 minutes)		
Note	Ganddini Project 19599, Nance Streer Trailor Yard - City of Perris		
Start Time	2023-02-15 14:56:56	Duration	0:15:00.0
End Time	2023-02-15 15:11:56	Run Time	0:15:00.0
Pause Time	0:00:00.0		

Results

Overall Metrics

LA_{eq}	62.8 dB		
LAE	92.4 dB	SEA	--- dB
EA	191.9 µPa²h	LAFTM5	67.4 dB
EA8	6.1 mPa²h		
EA40	30.7 mPa²h		
LA_{peak}	96.4 dB	2023-02-15 15:00:38	
LAS_{max}	79.6 dB	2023-02-15 15:00:38	
LAS_{min}	50.1 dB	2023-02-15 15:07:37	
LA_{eq}	62.8 dB		
LC_{eq}	79.2 dB	LC_{eq} - LA_{eq}	16.4 dB
LAI_{eq}	64.6 dB	LAI_{eq} - LA_{eq}	1.8 dB

Exceedances	Count	Duration
LAS > 65.0 dB	23	0:02:18.8
LAS > 85.0 dB	0	0:00:00.0
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

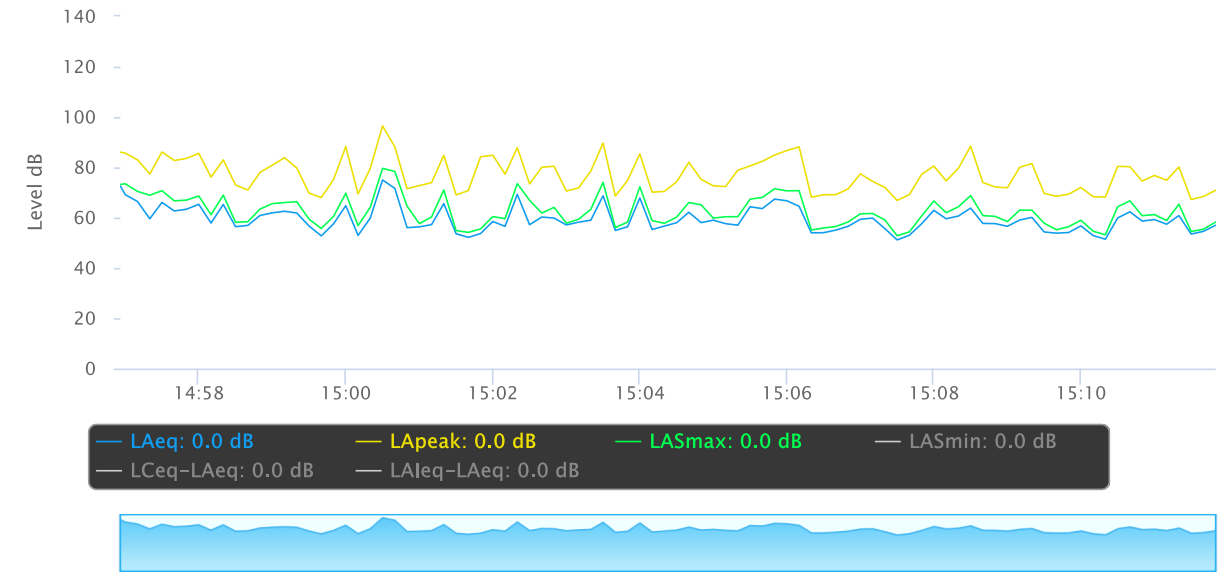
Any Data	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L_{eq}	62.8 dB		79.2 dB		--- dB	
$L_{S(max)}$	79.6 dB	2023-02-15 15:00:38	--- dB		--- dB	
$L_{S(min)}$	50.1 dB	2023-02-15 15:07:37	--- dB		--- dB	
$L_{Peak(max)}$	96.4 dB	2023-02-15 15:00:38	--- dB		--- dB	

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

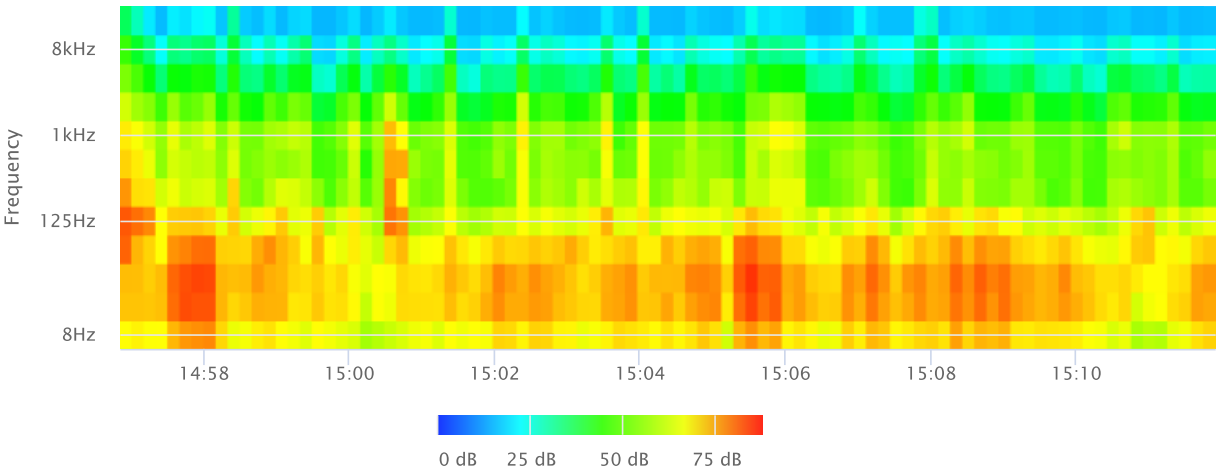
Statistics

LAS 2.0	71.6 dB
LAS 8.0	66.8 dB
LAS 25.0	60.9 dB
LAS 50.0	57.6 dB
LAS 66.6	55.9 dB
LAS 90.0	53.2 dB

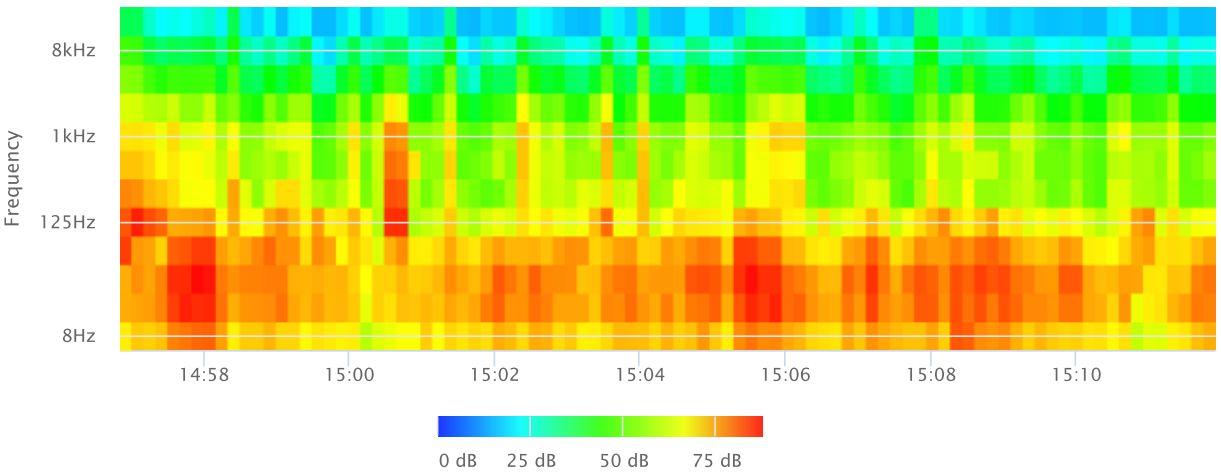
Time History



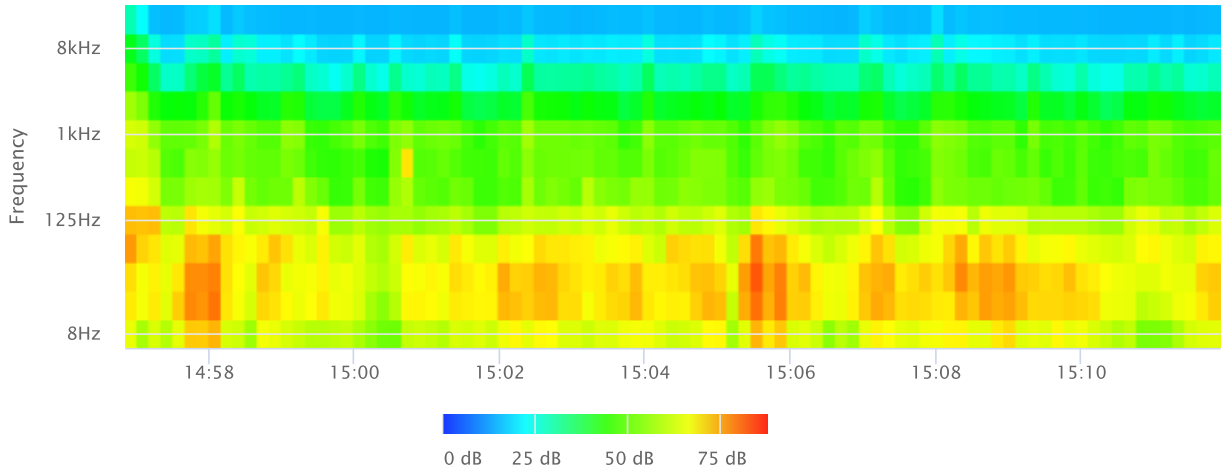
OBA 1/1 Leq



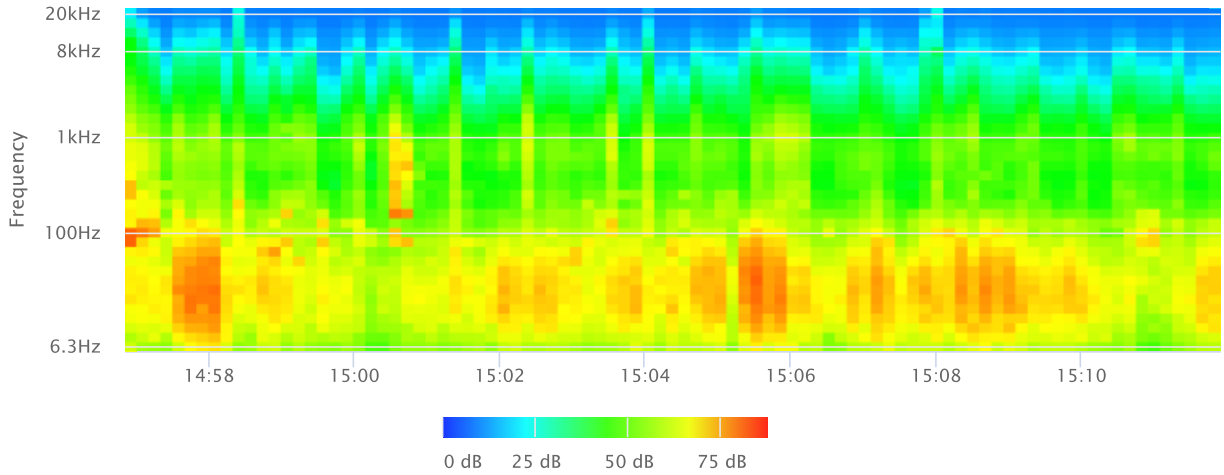
OBA 1/1 Lmax



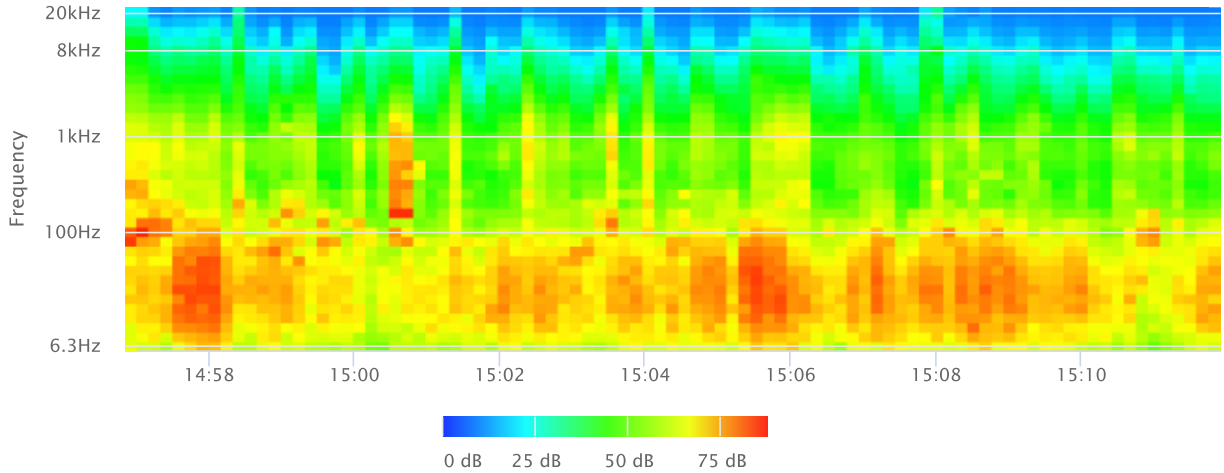
OBA 1/1 Lmin



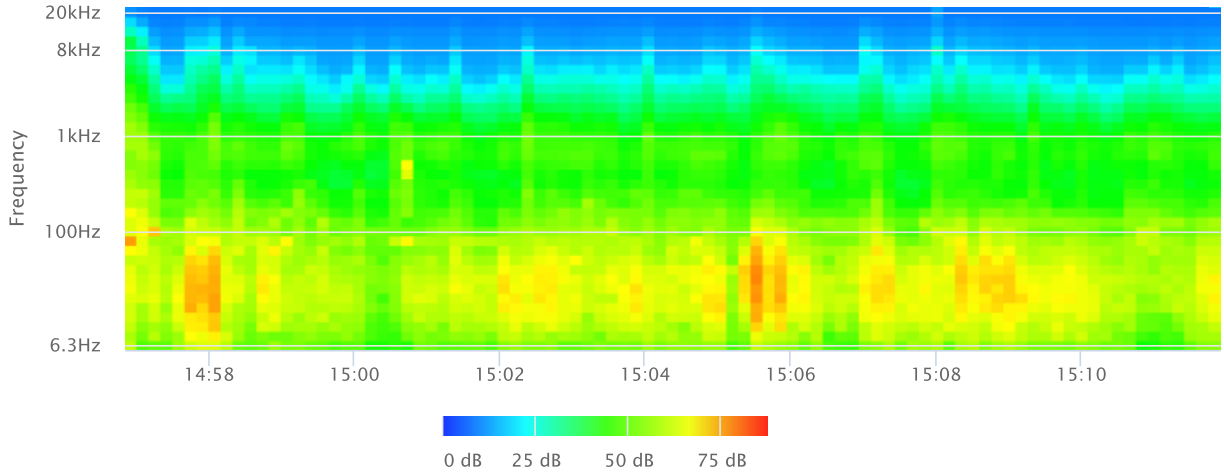
OBA 1/3 Leq



OBA 1/3 Lmax



OBA 1/3 Lmin


20kHz
8kHz
1kHz
100Hz
6.3Hz
Frequency
14:58
15:00
15:02
15:04
15:06
15:08
15:10
0 dB
25 dB
50 dB
75 dB

Noise Measurement
Field Data

Project Name: Nance Street Trailer Yard Project, City of Perris **Date:** February 15-16, 2023

Project #: 19599

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

Nearest Address or Cross Street: Harley Knox Boulevard & Webster Avenue traffic circle (about 580' SW of circle)

Site Description (Type of Existing Land Use and any other notable features): Measurement Site: Along the northern edge of project site, ~500' S of Harley Knox Blvd & ~500 W of Webster Ave. Adjacent: Vacnt land surrouding, Nance St ~280' to the S & S end of March ARB runway ~3,000' NNW.

Weather: Mostly clear skies,, sunny. Sunset/ rise: 5:35PM/ **Settings:** SLOW FAST

Temperature: 31-58 deg F **Wind:** 0-11mph **Humidity:** 20-55% **Terrain:** Flat

Start Time: 5:00 PM **End Time:** 5:00 PM **Run Time:**

Leq: 61.8 dB

Lmax 101.3 dB

L2 60.2 dB

L8 57.4 dB

L25 55.0 dB

L50 52.0 dB

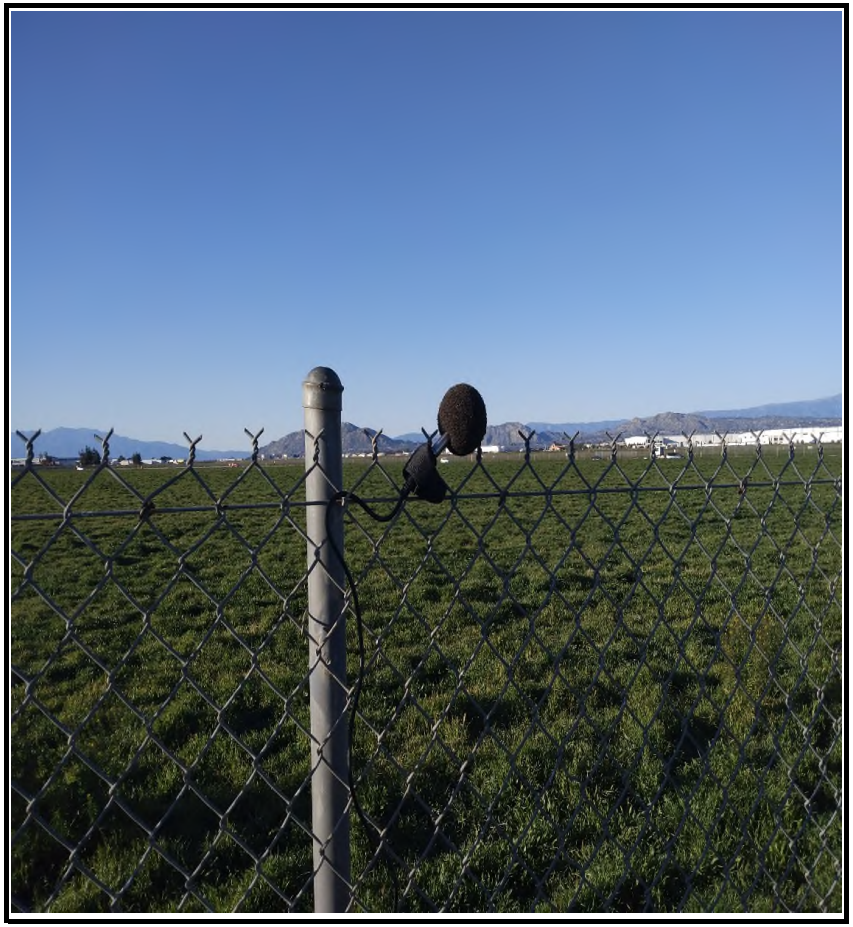
Primary Noise Source: Traffic ambiance from vehicles traveling along Harley Knox Blvd (~600' N of LTNM1) & Webster Ave (~425' E of LTNM1). S end of March ARB runway ~3,000' NNW.

Secondary Noise Sources: Traffic ambiance from vehicles on other roads. Other overhead air traffic. Bird song. Leaf rustle from breeze. Tow truck anbiance from business on Nance St.

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:	2/15/2023		

Noise Measurement
Field Data

PHOTOS:



LTNM1 looking N towards Harley Knox Boulevard (~600') & March ARB runway (~3,000').

LTNM1 looking S across site area towards Nance Street (~300'). Tow truck business, 845 W Nance Street, on left of image. Large warehouse, 4413 Patterson Ave, on right of image.

Summary	
File Name on Meter	LxT_Data.200.s
File Name on PC	LxT_0003099-20230215 170000-LxT_Data.200.ldbin
Serial Number	3099
Model	SoundTrack LxT®
Firmware Version	2.404
User	Ian Edward Gallagher
Location	LTNM1 33°51'22.76"N 117°14'43.52"W
Job Description	24 hour noise measurement (24 x 1 hours)
Note	Ganddini Project 19599, Nance Streer Trailer Yard - City of Perris

Measurement	
Start	2023-02-15 17:00:00
Stop	2023-02-16 17:00:00
Duration	24:00:00.0
Run Time	24:00:00.0
Pause	00:00:00.0
Pre-Calibration	2023-02-15 15:46:46
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	122.6 dB

Results			
LA_{eq}	61.8		
LAE	111.1		
EA	14.39397	mPa^2h	
EA8	4.797991	mPa^2h	
EA40	23.98996	mPa^2h	
$LA_{peak\ (max)}$	2023-02-16 13:54:35	116.9	dB
LAS_{max}	2023-02-16 13:54:36	101.3	dB
LAS_{min}	2023-02-16 10:48:55	36.6	dB

		Statistics	
LC_{eq}	70.6 dB	**LA2.00**	60.2 dB
LA_{eq}	61.8 dB	**LA8.00**	57.4 dB
LC_{eq} - LA_{eq}	8.8 dB	**LA25.00**	55.0 dB
LAI_{eq}	64.5 dB	**LA50.00**	52.0 dB
LA_{eq}	61.8 dB	**LA90.00**	47.0 dB
LAI_{eq} - LA_{eq}	2.8 dB	**LA99.00**	42.4 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	2023-02-15	17:00:00	01:00:00.0	01:00:00.0	00:00:00.0	56.0	46.7	17:00:59	72.7	17:03:04	61.8	57.6	56.0	54.4	51.3	48.5
2	2023-02-15	18:00:00	01:00:00.0	01:00:00.0	00:00:00.0	54.8	46.3	18:21:43	70.1	18:33:27	60.2	57.1	55.2	53.5	50.1	47.7
3	2023-02-15	19:00:00	01:00:00.0	01:00:00.0	00:00:00.0	55.6	45.8	19:56:31	78.1	19:04:32	62.6	56.1	54.3	53.0	49.7	47.1
4	2023-02-15	20:00:00	01:00:00.0	01:00:00.0	00:00:00.0	56.1	45.2	20:03:44	77.2	20:24:46	62.8	54.3	52.5	51.2	49.2	47.5
5	2023-02-15	21:00:00	01:00:00.0	01:00:00.0	00:00:00.0	58.6	49.3	21:01:54	76.3	21:41:44	67.4	59.2	57.5	55.9	51.6	50.1
6	2023-02-15	22:00:00	01:00:00.0	01:00:00.0	00:00:00.0	55.2	48.2	22:52:24	62.4	22:23:07	58.1	57.1	56.0	54.8	52.8	50.0
7	2023-02-15	23:00:00	01:00:00.0	01:00:00.0	00:00:00.0	51.8	46.3	23:42:49	65.1	23:15:29	56.5	54.1	52.4	50.9	49.1	47.3
8	2023-02-16	00:00:00	01:00:00.0	01:00:00.0	00:00:00.0	52.0	46.6	00:05:34	64.2	00:41:13	56.4	54.5	52.6	51.0	49.1	47.9
9	2023-02-16	01:00:00	01:00:00.0	01:00:00.0	00:00:00.0	50.1	45.8	01:48:50	62.1	01:33:38	53.4	52.3	51.0	49.6	47.3	46.3
10	2023-02-16	02:00:00	01:00:00.0	01:00:00.0	00:00:00.0	49.8	45.6	02:22:39	57.0	02:30:07	53.5	51.8	50.6	49.3	47.4	46.4
11	2023-02-16	03:00:00	01:00:00.0	01:00:00.0	00:00:00.0	53.9	46.4	03:00:11	74.1	03:06:44	56.8	55.7	54.5	53.0	50.2	47.4
12	2023-02-16	04:00:00	01:00:00.0	01:00:00.0	00:00:00.0	56.0	51.1	04:16:14	62.9	04:51:04	59.0	58.1	57.0	55.9	52.7	51.7
13	2023-02-16	05:00:00	01:00:00.0	01:00:00.0	00:00:00.0	57.7	53.7	05:21:07	66.2	05:35:12	60.5	59.5	58.4	57.3	55.5	54.3
14	2023-02-16	06:00:00	01:00:00.0	01:00:00.0	00:00:00.0	56.7	52.2	06:38:09	67.1	06:38:53	59.7	58.4	57.2	56.3	54.6	53.3
15	2023-02-16	07:00:00	01:00:00.0	01:00:00.0	00:00:00.0	55.9	51.2	07:08:56	67.3	07:05:55	59.7	57.9	56.5	55.4	53.6	52.2
16	2023-02-16	08:00:00	01:00:00.0	01:00:00.0	00:00:00.0	52.8	39.5	08:59:59	70.0	08:23:27	57.7	55.8	53.7	50.7	46.3	42.9
17	2023-02-16	09:00:00	01:00:00.0	01:00:00.0	00:00:00.0	56.2	39.4	09:00:00	79.9	09:47:02	64.3	51.6	49.0	46.8	43.4	41.1
18	2023-02-16	10:00:00	01:00:00.0	01:00:00.0	00:00:00.0	57.3	36.6	10:48:55	85.1	10:27:02	58.9	50.8	48.1	45.8	41.8	38.5
19	2023-02-16	11:00:00	01:00:00.0	01:00:00.0	00:00:00.0	52.6	39.0	11:19:40	74.4	11:51:28	59.5	52.7	49.5	47.5	44.2	41.5
20	2023-02-16	12:00:00	01:00:00.0	01:00:00.0	00:00:00.0	70.1	38.9	12:26:33	98.2	12:24:57	73.4	60.4	51.3	48.5	44.3	41.7
21	2023-02-16	13:00:00	01:00:00.0	01:00:00.0	00:00:00.0	72.3	41.4	13:04:43	101.3	13:54:36	72.5	59.7	52.3	50.2	46.9	43.8
22	2023-02-16	14:00:00	01:00:00.0	01:00:00.0	00:00:00.0	63.4	43.7	14:18:52	92.3	14:00:06	62.7	54.8	52.1	50.5	47.9	46.2
23	2023-02-16	15:00:00	01:00:00.0	01:00:00.0	00:00:00.0	51.9	43.1	15:21:16	68.0	15:01:10	56.0	54.2	52.6	51.3	48.3	45.9
24	2023-02-16	16:00:00	01:00:00.0	01:00:00.0	00:00:00.0	53.7	44.4	16:58:17	76.4	16:15:16	56.9	54.8	53.2	52.1	49.9	47.9

Measurement Report

Report Summary

Meter's File Name	LxT_Data.200.s	Computer's File Name	LxT_0003099-20230215 170000-LxT_Data.200.ldbin
Meter	LxT1 0003099		
Firmware	2.404		
User	Ian Edward Gallagher	Location	LTNM1 33°51'22.76"N 117°14'43.52"W
Job Description	24 hour noise measurement (24 x 1 hours)		
Note	Ganddini Project 19599, Nance Streer Trailor Yard - City of Perris		
Start Time	2023-02-15 17:00:00	Duration	24:00:00.0
End Time	2023-02-16 17:00:00	Run Time	24:00:00.0
Pause Time	0:00:00.0		

Results

Overall Metrics

LA_{eq}	61.8 dB		
LAE	111.1 dB	SEA	--- dB
EA	14.4 mPa²h	LAFTM5	67.4 dB
EA8	4.8 mPa²h		
EA40	24.0 mPa²h		
LA_{peak}	116.9 dB	2023-02-16 13:54:35	
LAS_{max}	101.3 dB	2023-02-16 13:54:36	
LAS_{min}	36.6 dB	2023-02-16 10:48:55	
LA_{eq}	61.8 dB		
LC_{eq}	70.6 dB	LC_{eq} - LA_{eq}	8.8 dB
LAI_{eq}	64.5 dB	LAI_{eq} - LA_{eq}	2.8 dB

Exceedances	Count	Duration
LAS > 65.0 dB	95	0:16:44.5
LAS > 85.0 dB	8	0:00:53.10
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

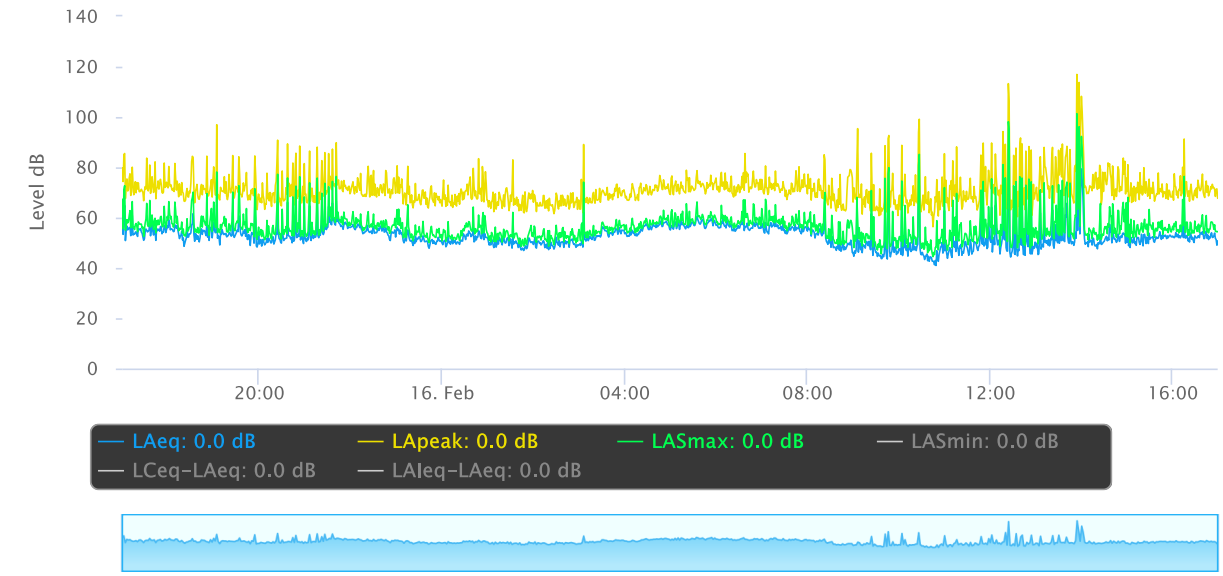
Any Data	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L_{eq}	61.8 dB		70.6 dB		--- dB	
$L_{S(max)}$	101.3 dB	2023-02-16 13:54:36	--- dB		--- dB	
$L_{S(min)}$	36.6 dB	2023-02-16 10:48:55	--- dB		--- dB	
$L_{Peak(max)}$	116.9 dB	2023-02-16 13:54:35	--- dB		--- dB	

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

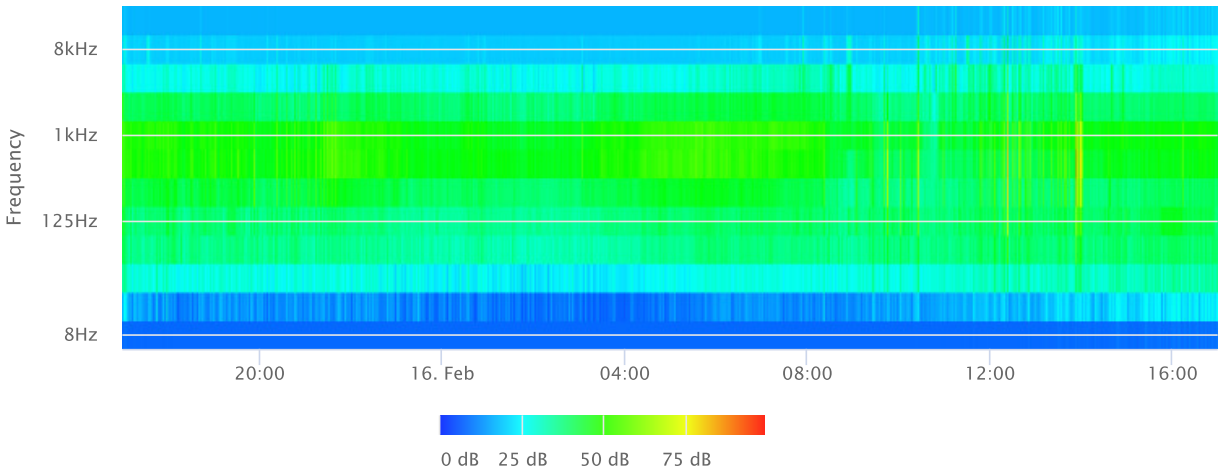
Statistics

LAS 2.0	60.2 dB
LAS 8.0	57.4 dB
LAS 25.0	55.0 dB
LAS 50.0	52.0 dB
LAS 90.0	47.0 dB
LAS 99.0	42.4 dB

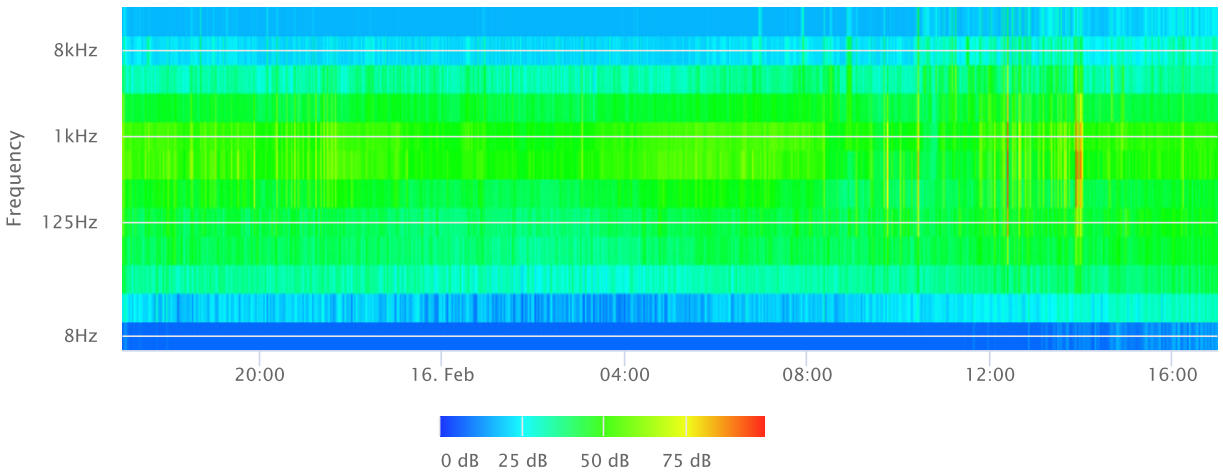
Time History



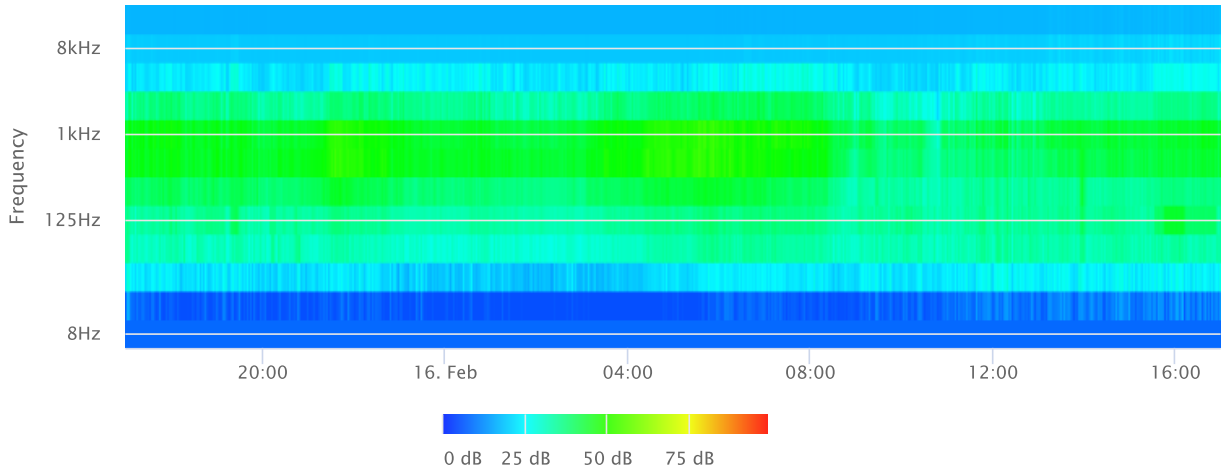
OBA 1/1 Leq



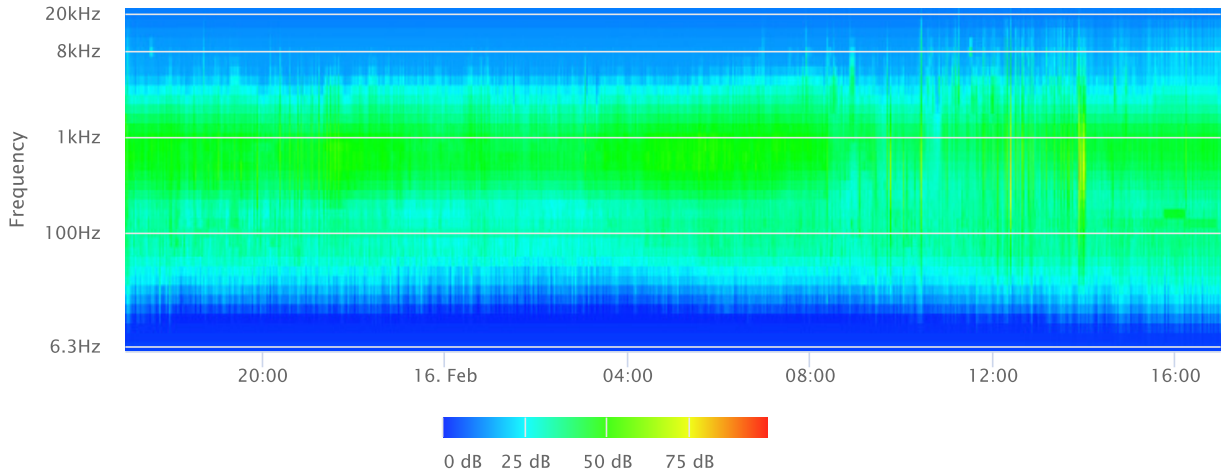
OBA 1/1 Lmax



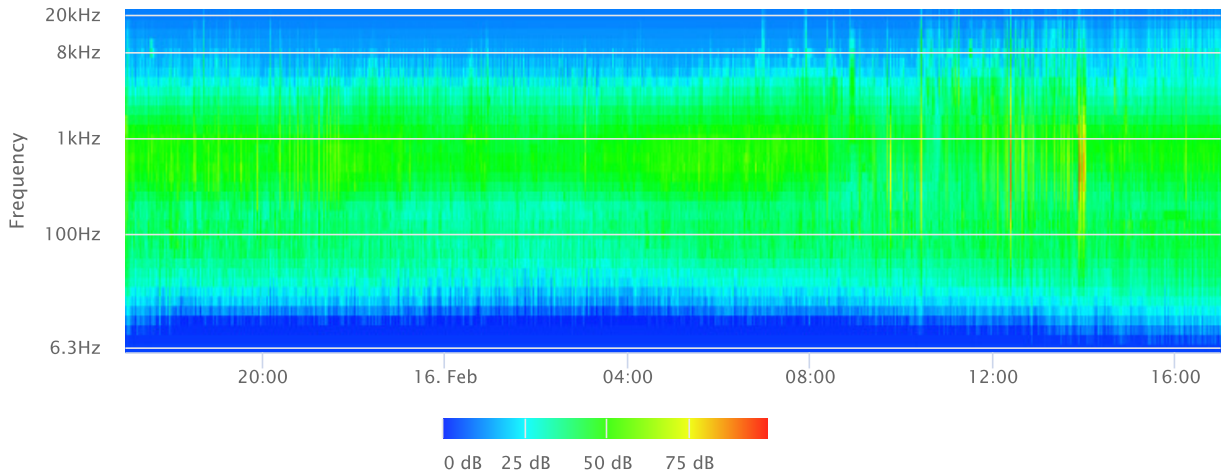
OBA 1/1 Lmin



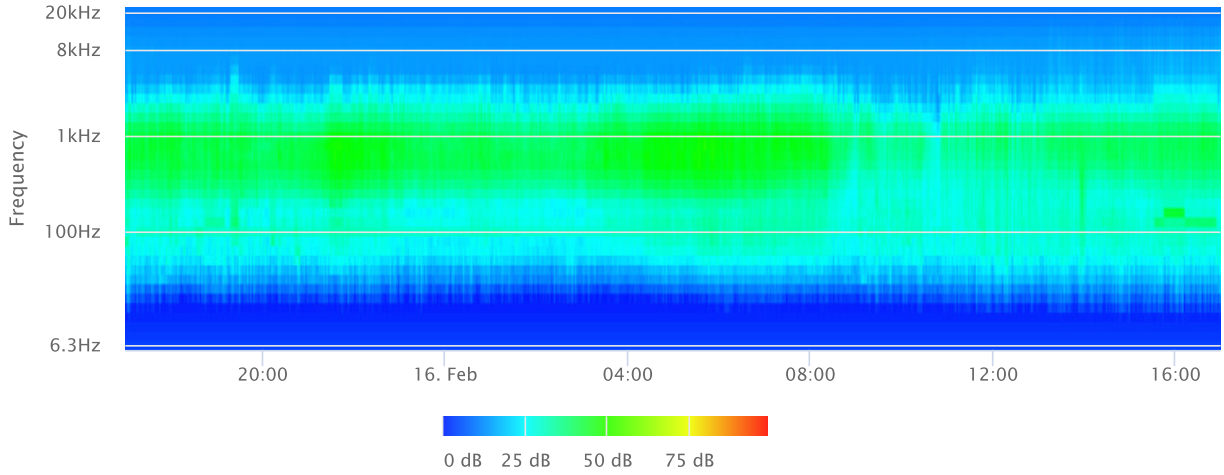
OBA 1/3 Leq



OBA 1/3 Lmax



OBA 1/3 Lmin


20kHz
8kHz
1kHz
100Hz
6.3Hz
Frequency
20:00
16. Feb
04:00
08:00
12:00
16:00

0 dB
25 dB
50 dB
75 dB

APPENDIX D

CONSTRUCTION NOISE MODEL WORKSHEETS

Receptor - Residential to Northwest (4611 Nevada Avenue) (Leq)

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
Grading									
Rubber Tired Dozers	1	82	365	40	0.40	-17.3	-4.0	64.7	60.8
Tractors/Loaders/Backhoes	3	84	365	40	1.20	-17.3	0.8	66.7	67.5
Excavators	1	81	365	40	0.40	-17.3	-4.0	63.7	59.8
Graders	1	85	365	40	0.40	-17.3	-4.0	67.7	63.8
								Log Sum	70.1
Building Construction									
Cranes	2	81	365	16	0.32	-17.3	-4.9	63.7	58.8
Forklifts[2]	4	48	365	40	1.60	-17.3	2.0	30.7	32.8
Generator Sets	1	81	365	50	0.50	-17.3	-3.0	63.7	60.7
Welders	2	74	365	40	0.80	-17.3	-1.0	56.7	55.8
Tractors/Loaders/Backhoes	4	84	365	40	1.60	-17.3	2.0	66.7	68.8
								Log Sum	69.9
Paving									
Pavers	2	77	365	50	1.00	-17.3	0.0	59.7	59.7
Paving Equipment	2	77	365	50	1.00	-17.3	0.0	59.7	59.7
Rollers	2	80	365	20	0.40	-17.3	-4.0	62.7	58.8
								Log Sum	64.2
Architectural Coating									
Air Compressors	1	78	365	40	0.40	-17.3	-4.0	60.7	56.8
								Log Sum	56.8

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 Construction 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 - Residential to Northwest (4611 Nevada Avenue) (Lmax)

Construction Phase Equipment Item	# of Items	Item Lmax at 50 feet, dBA[1]	Distance to Receptor	Item Usage Percent	Usage Factor	Dist. Correction dB	Usage Adj. dB	Receptor Item Lmax, dBA	Receptor Item Leq, dBA
Grading									
Graders	1	85	205	100	1.00	-12.3	0.0	72.7	72.7
Building Construction									
Tractors/Loaders/Backhoes	1	84	205	100	1.00	-12.3	0.0	71.7	71.7
Paving									
Roller	1	80	205	100	1.00	-12.3	0.0	67.7	67.7

Receptor - Residential to South (953 W Nance Street) (Leq)

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
Grading									
Rubber Tired Dozers	1	82	190	40	0.40	-11.6	-4.0	70.4	66.4
Tractors/Loaders/Backhoes	3	84	190	40	1.20	-11.6	0.8	72.4	73.2
Excavators	1	81	190	40	0.40	-11.6	-4.0	69.4	65.4
Graders	1	85	190	40	0.40	-11.6	-4.0	73.4	69.4
								Log Sum	75.7
Building Construction									
Cranes	2	81	190	16	0.32	-11.6	-4.9	69.4	64.5
Forklifts[2]	4	48	190	40	1.60	-11.6	2.0	36.4	38.4
Generator Sets	1	81	190	50	0.50	-11.6	-3.0	69.4	66.4
Welders	2	74	190	40	0.80	-11.6	-1.0	62.4	61.4
Tractors/Loaders/Backhoes	4	84	190	40	1.60	-11.6	2.0	72.4	74.4
								Log Sum	75.6
Paving									
Pavers	2	77	190	50	1.00	-11.6	0.0	65.4	65.4
Paving Equipment	2	77	190	50	1.00	-11.6	0.0	65.4	65.4
Rollers	2	80	190	20	0.40	-11.6	-4.0	68.4	64.4
								Log Sum	69.9
Architectural Coating									
Air Compressors	1	78	190	40	0.40	-11.6	-4.0	66.4	62.4
								Log Sum	62.4

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 Construction 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 - Residential to Northwest (953 W Nance Street) (Lmax)

Construction Phase Equipment Item	# of Items	Item Lmax at 50 feet, dBA[1]	Distance to Receptor	Item Usage Percent	Usage Factor	Dist. Correction dB	Usage Adj. dB	Receptor Item Lmax, dBA	Receptor Item Leq, dBA
Grading									
Graders	1	85	15	100	1.00	10.5	0.0	95.5	95.5
Building Construction									
Tractors/Loaders/Backhoes	1	84	15	100	1.00	10.5	0.0	94.5	94.5
Paving									
Roller	1	80	15	100	1.00	10.5	0.0	90.5	90.5

APPENDIX E

SOUNDPLAN WORKSHEETS

Noise emissions of road traffic

Statio km	ADT Veh/24	Vehicles type	Traffic values Vehicle name	day Veh/h	evening Veh/h	night Veh/h	Speed km/h	Contr devic	Cons Spee km/h	Affec veh. %	Road surface	Gradie Min / M %
1			Traffic direction: In entry direction									
0+00	24	Total	-	1	1	1	-	none	-	-	Average (of DGAC a	0.0
		Automobiles	-	-	-	-	24					
		Medium trucks	-	-	-	-	24					
		Heavy trucks	-	1	1	1	24					
		Buses	-	-	-	-	-					
		Motorcycles	-	-	-	-	-					
		Auxiliary vehicle	-	-	-	-	-					
2			Traffic direction: In entry direction									
0+00	36	Total	-	2	1	1	-	none	-	-	Average (of DGAC a	0.0
		Automobiles	-	-	-	-	24					
		Medium trucks	-	-	-	-	24					
		Heavy trucks	-	2	1	1	24					
		Buses	-	-	-	-	-					
		Motorcycles	-	-	-	-	-					
		Auxiliary vehicle	-	-	-	-	-					
0+03	36	Total	-	2	1	1	-	none	-	-	Average (of DGAC a	0.0
		Automobiles	-	-	-	-	24					
		Medium trucks	-	-	-	-	24					
		Heavy trucks	-	2	1	1	24					
		Buses	-	-	-	-	-					
		Motorcycles	-	-	-	-	-					
		Auxiliary vehicle	-	-	-	-	-					
3			Traffic direction: In entry direction									
0+00	36	Total	-	2	1	1	-	none	-	-	Average (of DGAC a	0.0
		Automobiles	-	-	-	-	24					
		Medium trucks	-	-	-	-	24					
		Heavy trucks	-	2	1	1	24					
		Buses	-	-	-	-	-					
		Motorcycles	-	-	-	-	-					
		Auxiliary vehicle	-	-	-	-	-					

Noise emissions of parking lot traffic

Name	Parking lot type	Size	Movements per hour			Road surface	Separated method	Lw,ref
			Day	Evening	Night			dB(A)
P1	Motorway station (resting trucks)	33 Parking bays	0.090	0.090	0.090	Asphaltic driving lanes	no	95.6
P2	Visitors and staff	16 Parking bays	0.200	0.200	0.200	Asphaltic driving lanes	no	77.2
P3	Motorway station (resting trucks)	12 Parking bays	0.030	0.030	0.030	Asphaltic driving lanes	no	89.0
P4	Motorway station (resting trucks)	8 Parking bays	0.030	0.030	0.030	Asphaltic driving lanes	no	86.0
P5	Motorway station (resting trucks)	50 Parking bays	0.030	0.030	0.030	Asphaltic driving lanes	no	98.0
P6	Motorway station (resting trucks)	24 Parking bays	0.030	0.030	0.030	Asphaltic driving lanes	no	93.7
P7	Visitors and staff	11 Parking bays	0.200	0.400	0.400	Asphaltic driving lanes	no	74.2
P8	Visitors and staff	7 Parking bays	0.200	0.400	0.400	Asphaltic driving lanes	no	71.5
P9	Motorway station (resting trucks)	56 Parking bays	0.020	0.020	0.020	Asphaltic driving lanes	no	98.7
P10	Motorway station (resting trucks)	24 Parking bays	0.020	0.020	0.020	Asphaltic driving lanes	no	93.7
P11	Motorway station (resting trucks)	54 Parking bays	0.020	0.020	0.020	Asphaltic driving lanes	no	98.5

Noise emissions of industry sources

Source name	Referer	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
HVAC1	Lw/unit	Day	78.7	42.	47.	42.	46.	50.	56.	59.	62.	62.	64.	66.	56.	58.5	59.	68.	69.	70.	71.	71.	71.	70.	70.	70.	73.	72.	71.	74.	72.	-	-	-
		Even	78.7	42.	47.	42.	46.	50.	56.	59.	62.	62.	64.	66.	56.	58.5	59.	68.	69.	70.	71.	71.	71.	70.	70.	70.	73.	72.	71.	74.	72.	-	-	-
HVAC2	Lw/unit	Day	78.7	42.	47.	42.	46.	50.	56.	59.	62.	62.	64.	66.	56.	58.5	59.	68.	69.	70.	71.	71.	71.	70.	70.	70.	73.	72.	71.	74.	72.	-	-	-
		Even	78.7	42.	47.	42.	46.	50.	56.	59.	62.	62.	64.	66.	56.	58.5	59.	68.	69.	70.	71.	71.	71.	70.	70.	70.	73.	72.	71.	74.	72.	-	-	-
HVAC3	Lw/unit	Day	78.7	42.	47.	42.	46.	50.	56.	59.	62.	62.	64.	66.	56.	58.5	59.	68.	69.	70.	71.	71.	71.	70.	70.	70.	73.	72.	71.	74.	72.	-	-	-
		Even	78.7	42.	47.	42.	46.	50.	56.	59.	62.	62.	64.	66.	56.	58.5	59.	68.	69.	70.	71.	71.	71.	70.	70.	70.	73.	72.	71.	74.	72.	-	-	-
HVAC4	Lw/unit	Day	78.7	42.	47.	42.	46.	50.	56.	59.	62.	62.	64.	66.	56.	58.5	59.	68.	69.	70.	71.	71.	71.	70.	70.	70.	73.	72.	71.	74.	72.	-	-	-
		Even	78.7	42.	47.	42.	46.	50.	56.	59.	62.	62.	64.	66.	56.	58.5	59.	68.	69.	70.	71.	71.	71.	70.	70.	70.	73.	72.	71.	74.	72.	-	-	-
HVAC5	Lw/unit	Day	78.7	42.	47.	42.	46.	50.	56.	59.	62.	62.	64.	66.	56.	58.5	59.	68.	69.	70.	71.	71.	71.	70.	70.	70.	73.	72.	71.	74.	72.	-	-	-
		Even	78.7	42.	47.	42.	46.	50.	56.	59.	62.	62.	64.	66.	56.	58.5	59.	68.	69.	70.	71.	71.	71.	70.	70.	70.	73.	72.	71.	74.	72.	-	-	-
HVAC6	Lw/unit	Day	78.7	42.	47.	42.	46.	50.	56.	59.	62.	62.	64.	66.	56.	58.5	59.	68.	69.	70.	71.	71.	71.	70.	70.	70.	73.	72.	71.	74.	72.	-	-	-
		Even	78.7	42.	47.	42.	46.	50.	56.	59.	62.	62.	64.	66.	56.	58.5	59.	68.	69.	70.	71.	71.	71.	70.	70.	70.	73.	72.	71.	74.	72.	-	-	-
HVAC7	Lw/unit	Day	78.7	42.	47.	42.	46.	50.	56.	59.	62.	62.	64.	66.	56.	58.5	59.	68.	69.	70.	71.	71.	71.	70.	70.	70.	73.	72.	71.	74.	72.	-	-	-
		Even	78.7	42.	47.	42.	46.	50.	56.	59.	62.	62.	64.	66.	56.	58.5	59.	68.	69.	70.	71.	71.	71.	70.	70.	70.	73.	72.	71.	74.	72.	-	-	-
HVAC8	Lw/unit	Day	78.7	42.	47.	42.	46.	50.	56.	59.	62.	62.	64.	66.	56.	58.5	59.	68.	69.	70.	71.	71.	71.	70.	70.	70.	73.	72.	71.	74.	72.	-	-	-
		Even	78.7	42.	47.	42.	46.	50.	56.	59.	62.	62.	64.	66.	56.	58.5	59.	68.	69.	70.	71.	71.	71.	70.	70.	70.	73.	72.	71.	74.	72.	-	-	-
HVAC9	Lw/unit	Day	78.7	42.	47.	42.	46.	50.	56.	59.	62.	62.	64.	66.	56.	58.5	59.	68.	69.	70.	71.	71.	71.	70.	70.	70.	73.	72.	71.	74.	72.	-	-	-
		Even	78.7	42.	47.	42.	46.	50.	56.	59.	62.	62.	64.	66.	56.	58.5	59.	68.	69.	70.	71.	71.	71.	70.	70.	70.	73.	72.	71.	74.	72.	-	-	-
HVAC10	Lw/unit	Day	78.7	42.	47.	42.	46.	50.	56.	59.	62.	62.	64.	66.	56.	58.5	59.	68.	69.	70.	71.	71.	71.	70.	70.	70.	73.	72.	71.	74.	72.	-	-	-
		Even	78.7	42.	47.	42.	46.	50.	56.	59.	62.	62.	64.	66.	56.	58.5	59.	68.	69.	70.	71.	71.	71.	70.	70.	70.	73.	72.	71.	74.	72.	-	-	-
HVAC11	Lw/unit	Day	78.7	42.	47.	42.	46.	50.	56.	59.	62.	62.	64.	66.	56.	58.5	59.	68.	69.	70.	71.	71.	71.	70.	70.	70.	73.	72.	71.	74.	72.	-	-	-
		Even	78.7	42.	47.	42.	46.	50.	56.	59.	62.	62.	64.	66.	56.	58.5	59.	68.	69.	70.	71.	71.	71.	70.	70.	70.	73.	72.	71.	74.	72.	-	-	-
HVAC12	Lw/unit	Day	78.7	42.	47.	42.	46.	50.	56.	59.	62.	62.	64.	66.	56.	58.5	59.	68.	69.	70.	71.	71.	71.	70.	70.	70.	73.	72.	71.	74.	72.	-	-	-
		Even	78.7	42.	47.	42.	46.	50.	56.	59.	62.	62.	64.	66.	56.	58.5	59.	68.	69.	70.	71.	71.	71.	70.	70.	70.	73.	72.	71.	74.	72.	-	-	-
Pnuematic Equ	Lw/unit	Day	112.	-	-	-	-	-	-	-	-	-	-	-	-	112	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Even	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pnuematic Equ	Lw/unit	Day	112.	-	-	-	-	-	-	-	-	-	-	-	-	112	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Even	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Receiver list

No.	Receiver name	Building side	Floor	Limit		Level w/o NP		Level w NP		Difference		Conflict
				Day	Lden	Day	Lden	Day	Lden	Day	Lden	Lden
				dB(A)		dB(A)		dB(A)		dB		dB
1	1	-	EG	-	-	48.4	48.3	0.0	0.0	-48.4	-48.3	-
2	2	-	EG	-	-	56.2	56.1	0.0	0.0	-56.2	-56.1	-
3	3	-	EG	-	-	53.1	51.6	0.0	0.0	-53.1	-51.6	-

Noise emissions of industry sources

Source name	Reference	Level Day dB(A)	Frequency spectrum [dB(A)] 63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz	Corrections Cwall dB	CI dB	CT dB
Backup Alarm1	Lw/unit	-	70.0	80.0	87.1	93.1	96.0	97.0	97.1	95.0	-	-	-

Receiver list

No.	Receiver name	Building side	Floor	Limit Day dB(A)	Level w/o NP Day dB(A)	Level w NP Day dB(A)	Difference Day dB
1	1	-	EG	-	49.7	0.0	-49.7
2	2	-	EG	-	79.9	0.0	-79.9
3	3	-	EG	-	45.3	0.0	-45.3

APPENDIX F

FHWA TRAFFIC NOISE MODEL WORKSHEETS

FHWA Traffic Noise Prediction Model FHWA-RD-77-108

Existing Traffic Noise

Project: **19599 Nance Street Trailer Yard**

Road: **Nance Street**

Segment: **Project Driveway 1 to Project Driveway 2**

	DAYTIME			EVENING			NIGHTTIME			ADT	882.00
	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	SPEED	25.00
										DISTANCE	30.00
INPUT PARAMETERS											
Vehicles per hour	52.88	1.16	0.54	39.08	0.21	0.24	9.79	1.55	0.71	% A	95.22
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	% MT	3.24
NOISE CALCULATIONS											
Reference levels	59.44	71.09	77.24	59.44	71.09	77.24	59.44	71.09	77.24	% HT	1.54
ADJUSTMENTS											
Flow	12.95	-3.62	-7.00	11.63	-11.13	-10.39	5.62	-2.37	-5.75		
Distance	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15	LEFT	-90.00
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	RIGHT	90.00
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	CNEL	57.83
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	DAY LEQ	52.40
LEQ	49.54	44.61	47.39	48.22	37.10	43.99	42.21	45.86	48.64	Day hour	89.00
										Absorbtive?	no
	DAY LEQ	52.40		EVENING LEQ	49.85		NIGHT LEQ	51.08		Use hour?	no
										GRADE dB	0.00
		CNEL	**57.83**								

FHWA Traffic Noise Prediction Model FHWA-RD-77-108

Existing Plus Project Traffic Noise

Project: **19599 Nance Street Trailer Yard**

Road: **Nance Street**

Segment: **Project Driveway 1 to Project Driveway 2**

	DAYTIME			EVENING			NIGHTTIME			ADT	919.57
	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	SPEED	25.00
										DISTANCE	30.00
INPUT PARAMETERS											
Vehicles per hour	52.88	1.94	1.27	39.08	0.34	0.58	9.79	2.58	1.69	% A	91.33
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	% MT	5.17
NOISE CALCULATIONS											
Reference levels	59.44	71.09	77.24	59.44	71.09	77.24	59.44	71.09	77.24	% HT	3.50
ADJUSTMENTS											
Flow	12.95	-1.41	-3.25	11.63	-8.92	-6.65	5.62	-0.16	-2.00		
Distance	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15	LEFT	-90.00
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	RIGHT	90.00
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	CNEL	60.57
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	DAY LEQ	54.28
LEQ	49.54	46.82	51.14	48.22	39.32	47.74	42.21	48.07	52.38	Day hour	89.00
										Absorbtive?	no
	DAY LEQ	54.28		EVENING LEQ	51.28		NIGHT LEQ	54.05		Use hour?	no
										GRADE dB	0.00
		CNEL	**60.57**								

FHWA Traffic Noise Prediction Model FHWA-RD-77-108

Existing Traffic Noise

Project: **19599 Nance Street Trailer Yard**

Road: **Nance Street**

Segment: **Project Driveway 2 to Project Driveway 3**

	DAYTIME			EVENING			NIGHTTIME			ADT	882.00
	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	SPEED	25.00
										DISTANCE	30.00
INPUT PARAMETERS											
Vehicles per hour	52.88	1.16	0.54	39.08	0.21	0.24	9.79	1.55	0.71	% A	95.22
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	% MT	3.24
NOISE CALCULATIONS											
Reference levels	59.44	71.09	77.24	59.44	71.09	77.24	59.44	71.09	77.24	% HT	1.54
ADJUSTMENTS											
Flow	12.95	-3.62	-7.00	11.63	-11.13	-10.39	5.62	-2.37	-5.75		
Distance	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15	LEFT	-90.00
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	RIGHT	90.00
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	CNEL	57.83
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	DAY LEQ	52.40
LEQ	49.54	44.61	47.39	48.22	37.10	43.99	42.21	45.86	48.64	Day hour	89.00
										Absorbtive?	no
	DAY LEQ	52.40		EVENING LEQ	49.85		NIGHT LEQ	51.08		Use hour?	no
										GRADE dB	0.00
		CNEL	**57.83**								

FHWA Traffic Noise Prediction Model FHWA-RD-77-108

Existing Plus Project Traffic Noise

Project: **19599 Nance Street Trailer Yard**

Road: **Nance Street**

Segment: **Project Driveway 2 to Project Driveway 3**

	DAYTIME			EVENING			NIGHTTIME			ADT	974.17
	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	SPEED	25.00
										DISTANCE	30.00
INPUT PARAMETERS											
Vehicles per hour	56.32	1.94	1.27	41.62	0.34	0.58	10.43	2.58	1.69	% A	91.82
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	% MT	4.88
NOISE CALCULATIONS											
Reference levels	59.44	71.09	77.24	59.44	71.09	77.24	59.44	71.09	77.24	% HT	3.30
ADJUSTMENTS											
Flow	13.22	-1.41	-3.25	11.91	-8.92	-6.65	5.90	-0.16	-2.00		
Distance	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15	LEFT	-90.00
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	RIGHT	90.00
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	CNEL	60.60
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	DAY LEQ	54.37
LEQ	49.81	46.82	51.14	48.50	39.32	47.74	42.48	48.07	52.38	Day hour	89.00
										Absorbtive?	no
	DAY LEQ	54.37		EVENING LEQ	51.42		NIGHT LEQ	54.07		Use hour?	no
										GRADE dB	0.00
		CNEL	**60.60**								

FHWA Traffic Noise Prediction Model FHWA-RD-77-108

Existing Traffic Noise

Project: **19599 Nance Street Trailer Yard**

Road: **Nance Street**

Segment: **Project Driveway 3 to Project Driveway 4**

	DAYTIME			EVENING			NIGHTTIME			ADT	882.00
	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	SPEED	25.00
										DISTANCE	30.00
INPUT PARAMETERS											
Vehicles per hour	52.88	1.16	0.54	39.08	0.21	0.24	9.79	1.55	0.71	% A	95.22
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	% MT	3.24
NOISE CALCULATIONS											
Reference levels	59.44	71.09	77.24	59.44	71.09	77.24	59.44	71.09	77.24	% HT	1.54
ADJUSTMENTS											
Flow	12.95	-3.62	-7.00	11.63	-11.13	-10.39	5.62	-2.37	-5.75		
Distance	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15	LEFT	-90.00
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	RIGHT	90.00
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	CNEL	57.83
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	DAY LEQ	52.40
LEQ	49.54	44.61	47.39	48.22	37.10	43.99	42.21	45.86	48.64	Day hour	89.00
										Absorbtive?	no
	DAY LEQ	52.40		EVENING LEQ	49.85		NIGHT LEQ	51.08		Use hour?	no
										GRADE dB	0.00
		CNEL	**57.83**								

FHWA Traffic Noise Prediction Model FHWA-RD-77-108

Existing Plus Project Traffic Noise

Project: **19599 Nance Street Trailer Yard**

Road: **Nance Street**

Segment: **Project Driveway 3 to Project Driveway 4**

	DAYTIME			EVENING			NIGHTTIME			ADT	1153.61
	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	SPEED	25.00
										DISTANCE	30.00
INPUT PARAMETERS											
Vehicles per hour	61.07	4.08	3.30	45.13	0.72	1.51	11.30	5.44	4.40	% A	84.07
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	% MT	8.68
NOISE CALCULATIONS											
Reference levels	59.44	71.09	77.24	59.44	71.09	77.24	59.44	71.09	77.24	% HT	7.25
ADJUSTMENTS											
Flow	13.57	1.82	0.90	12.26	-5.69	-2.50	6.25	3.07	2.15		
Distance	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15	LEFT	-90.00
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	RIGHT	90.00
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	CNEL	64.21
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	DAY LEQ	57.35
LEQ	50.16	50.06	55.29	48.85	42.55	51.89	42.84	51.31	56.53	Day hour	89.00
										Absorbtive?	no
	DAY LEQ	57.35		EVENING LEQ	53.97		NIGHT LEQ	57.81		Use hour?	no
										GRADE dB	0.00
		CNEL	**64.21**								

FHWA Traffic Noise Prediction Model FHWA-RD-77-108

Existing Traffic Noise

Project: **19599 Nance Street Trailer Yard**

Road: **Nance Street**

Segment: **Project Driveway 4 to Webster Avenue**

	DAYTIME			EVENING			NIGHTTIME			ADT	13675.00
	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	SPEED	25.00
										DISTANCE	30.00
INPUT PARAMETERS											
Vehicles per hour	819.91	18.06	8.30	605.93	3.20	3.80	151.77	24.08	11.07	% A	95.22
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	% MT	3.24
NOISE CALCULATIONS											
Reference levels	59.44	71.09	77.24	59.44	71.09	77.24	59.44	71.09	77.24	% HT	1.54
ADJUSTMENTS											
Flow	24.85	8.28	4.91	23.54	0.77	1.51	17.53	9.53	6.16		
Distance	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15	LEFT	-90.00
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	RIGHT	90.00
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	CNEL	69.73
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	DAY LEQ	64.30
LEQ	61.44	56.52	59.29	60.13	49.01	55.90	54.12	57.77	60.54	Day hour	89.00
										Absorbtive?	no
	DAY LEQ	64.30		EVENING LEQ	61.76		NIGHT LEQ	62.99		Use hour?	no
										GRADE dB	0.00
		CNEL	**69.73**								

FHWA Traffic Noise Prediction Model FHWA-RD-77-108

Existing Plus Project Traffic Noise

Project: **19599 Nance Street Trailer Yard**

Road: **Nance Street**

Segment: **Project Driveway 4 to Webster Avenue**

	DAYTIME			EVENING			NIGHTTIME			ADT	14094.00
	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	SPEED	25.00
										DISTANCE	30.00
INPUT PARAMETERS											
Vehicles per hour	828.10	24.01	13.94	611.98	4.26	6.38	153.29	32.01	18.58	% A	93.31
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	% MT	4.18
NOISE CALCULATIONS											
Reference levels	59.44	71.09	77.24	59.44	71.09	77.24	59.44	71.09	77.24	% HT	2.51
ADJUSTMENTS											
Flow	24.90	9.52	7.16	23.58	2.01	3.76	17.57	10.77	8.41		
Distance	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15	LEFT	-90.00
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	RIGHT	90.00
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	CNEL	71.31
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	DAY LEQ	65.35
LEQ	61.48	57.75	61.55	60.17	50.25	58.15	54.16	59.00	62.79	Day hour	89.00
										Absorbtive?	no
	DAY LEQ	65.35		EVENING LEQ	62.55		NIGHT LEQ	64.71		Use hour?	no
										GRADE dB	0.00
		CNEL	**71.31**								

FHWA Traffic Noise Prediction Model FHWA-RD-77-108

Existing Traffic Noise

Project: **19599 Nance Street Trailer Yard**

Road: **Nance Street**

Segment: **East of Webster Avenue**

	DAYTIME			EVENING			NIGHTTIME			ADT	13675.00
	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	SPEED	25.00
										DISTANCE	30.00
INPUT PARAMETERS											
Vehicles per hour	819.91	18.06	8.30	605.93	3.20	3.80	151.77	24.08	11.07	% A	95.22
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	% MT	3.24
NOISE CALCULATIONS											
Reference levels	59.44	71.09	77.24	59.44	71.09	77.24	59.44	71.09	77.24	% HT	1.54
ADJUSTMENTS											
Flow	24.85	8.28	4.91	23.54	0.77	1.51	17.53	9.53	6.16		
Distance	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15	LEFT	-90.00
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	RIGHT	90.00
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	CNEL	69.73
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	DAY LEQ	64.30
LEQ	61.44	56.52	59.29	60.13	49.01	55.90	54.12	57.77	60.54	Day hour	89.00
										Absorbtive?	no
	DAY LEQ	64.30		EVENING LEQ	61.76		NIGHT LEQ	62.99		Use hour?	no
										GRADE dB	0.00
		CNEL	**69.73**								

FHWA Traffic Noise Prediction Model FHWA-RD-77-108

Existing Plus Project Traffic Noise

Project: **19599 Nance Street Trailer Yard**

Road: **Nance Street**

Segment: **East of Webster Avenue**

	DAYTIME			EVENING			NIGHTTIME			ADT	13694.50
	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	SPEED	25.00
										DISTANCE	30.00
INPUT PARAMETERS											
Vehicles per hour	821.14	18.06	8.30	606.83	3.20	3.80	152.00	24.08	11.07	% A	95.23
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	% MT	3.24
NOISE CALCULATIONS											
Reference levels	59.44	71.09	77.24	59.44	71.09	77.24	59.44	71.09	77.24	% HT	1.54
ADJUSTMENTS											
Flow	24.86	8.28	4.91	23.55	0.77	1.51	17.53	9.53	6.16		
Distance	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15	LEFT	-90.00
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	RIGHT	90.00
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	CNEL	69.73
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	DAY LEQ	64.30
LEQ	61.45	56.52	59.29	60.13	49.01	55.90	54.12	57.77	60.54	Day hour	89.00
										Absorbtive?	no
	DAY LEQ	64.30		EVENING LEQ	61.76		NIGHT LEQ	62.99		Use hour?	no
										GRADE dB	0.00
		CNEL	**69.73**								

FHWA Traffic Noise Prediction Model FHWA-RD-77-108

Existing Traffic Noise

Project: **19599 Nance Street Trailer Yard**

Road: **Webster Avenue**

Segment: **North of Nance Street**

	DAYTIME			EVENING			NIGHTTIME			ADT	4950.00
	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	SPEED	35.00
										DISTANCE	47.00
INPUT PARAMETERS											
Vehicles per hour	283.38	8.04	9.90	210.40	1.34	1.65	52.19	11.17	13.75	% A	90.94
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	% MT	4.06
NOISE CALCULATIONS											
Reference levels	65.11	74.83	80.05	65.11	74.83	80.05	65.11	74.83	80.05	% HT	5
ADJUSTMENTS											
Flow	18.78	3.31	4.21	17.48	-4.48	-3.57	11.43	4.73	5.64		
Distance	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	LEFT	-90.00
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	RIGHT	90.00
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	CNEL	68.77
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	DAY LEQ	62.80
LEQ	59.09	53.33	59.45	57.79	45.55	51.67	51.74	54.76	60.88	Day hour	89.00
										Absorbtive?	no
	DAY LEQ	62.80		EVENING LEQ	58.95		NIGHT LEQ	62.24		Use hour?	no
										GRADE dB	0.00
		CNEL	**68.77**								

FHWA Traffic Noise Prediction Model FHWA-RD-77-108

Existing Plus Project Traffic Noise

Project: **19599 Nance Street Trailer Yard**

Road: **Webster Avenue**

Segment: **North of Nance Street**

	DAYTIME			EVENING			NIGHTTIME			ADT	5291.00
	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	SPEED	35.00
										DISTANCE	47.00
INPUT PARAMETERS											
Vehicles per hour	286.66	13.88	15.62	212.83	2.31	2.60	52.79	19.28	21.69	% A	86.06
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	% MT	6.56
NOISE CALCULATIONS											
Reference levels	65.11	74.83	80.05	65.11	74.83	80.05	65.11	74.83	80.05	% HT	7.38
ADJUSTMENTS											
Flow	18.83	5.68	6.19	17.53	-2.10	-1.59	11.48	7.10	7.62		
Distance	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	LEFT	-90.00
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	RIGHT	90.00
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	CNEL	70.57
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	DAY LEQ	64.12
LEQ	59.14	55.70	61.44	57.84	47.92	53.65	51.79	57.13	62.86	Day hour	89.00
										Absorbtive?	no
	DAY LEQ	64.12		EVENING LEQ	59.55		NIGHT LEQ	64.15		Use hour?	no
										GRADE dB	0.00
		CNEL	**70.57**								

FHWA Traffic Noise Prediction Model FHWA-RD-77-108

Existing Traffic Noise

Project: **19599 Nance Street Trailer Yard**

Road: **Webster Avenue**

Segment: **South of Nance Street**

	DAYTIME			EVENING			NIGHTTIME			ADT	4950.00
	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	SPEED	35.00
										DISTANCE	47.00
INPUT PARAMETERS											
Vehicles per hour	283.38	8.04	9.90	210.40	1.34	1.65	52.19	11.17	13.75	% A	90.94
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	% MT	4.06
NOISE CALCULATIONS											
Reference levels	65.11	74.83	80.05	65.11	74.83	80.05	65.11	74.83	80.05	% HT	5
ADJUSTMENTS											
Flow	18.78	3.31	4.21	17.48	-4.48	-3.57	11.43	4.73	5.64		
Distance	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	LEFT	-90.00
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	RIGHT	90.00
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	CNEL	68.77
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	DAY LEQ	62.80
LEQ	59.09	53.33	59.45	57.79	45.55	51.67	51.74	54.76	60.88	Day hour	89.00
										Absorbtive?	no
	DAY LEQ	62.80		EVENING LEQ	58.95		NIGHT LEQ	62.24		Use hour?	no
										GRADE dB	0.00
		CNEL	**68.77**								

FHWA Traffic Noise Prediction Model FHWA-RD-77-108

Existing Plus Project Traffic Noise

Project: **19599 Nance Street Trailer Yard**

Road: **Webster Avenue**

Segment: **South of Nance Street**

	DAYTIME			EVENING			NIGHTTIME			ADT	5008.50
	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	SPEED	35.00
										DISTANCE	47.00
INPUT PARAMETERS											
Vehicles per hour	284.53	8.86	10.70	211.25	1.48	1.78	52.40	12.30	14.86	% A	90.24
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	% MT	4.42
NOISE CALCULATIONS											
Reference levels	65.11	74.83	80.05	65.11	74.83	80.05	65.11	74.83	80.05	% HT	5.34
ADJUSTMENTS											
Flow	18.79	3.73	4.55	17.50	-4.05	-3.24	11.45	5.15	5.97		
Distance	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	LEFT	-90.00
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	RIGHT	90.00
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	CNEL	69.07
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	DAY LEQ	63.02
LEQ	59.10	53.75	59.79	57.81	45.97	52.01	51.76	55.18	61.22	Day hour	89.00
										Absorbtive?	no
	DAY LEQ	63.02		EVENING LEQ	59.04		NIGHT LEQ	62.56		Use hour?	no
										GRADE dB	0.00
		CNEL	**69.07**								

APPENDIX G

GROUNDBORNE VIBRATION WORKSHEETS

GROUNDBORNE VIBRATION ANALYSIS			
Project:	19599 Nance Street Trailer Yard		Date: 12/22/23
Source:	Vibratory Roller		
Scenario:	Unmitigated		
Location:	Residential to Northwest		
Address:	4697 Nevada Avenue, Perris		
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 =	249.00	Distance from Equipment to Receiver (ft)	
n =	1.50	Vibration attenuation rate through the ground	
Note: Based on reference equations from the Transportation and Construction Vibration Guidance Manual, California Department of Transportation, April 2020, pg 37.			
RESULTS			
PPV =	0.007	IN/SEC	OUTPUT IN BLUE

GROUNDBORNE VIBRATION ANALYSIS

Project:	19599 Nance Street Trailer Yard	Date:	12/22/23
Source:	Large Bulldozer		
Scenario:	Unmitigated		
Location:	Residential to Northwest		
Address:	4697 Nevada Avenue, Perris		

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 =	249.00	Distance from Equipment to Receiver (ft)	
n =	1.50	Vibration attenuation rate through the ground	

Note: Based on reference equations from the Transportation and Construction Vibration Guidance Manual, California Department of Transportation, April 2020, pg 37.

RESULTS

PPV =	0.003	IN/SEC	OUTPUT IN BLUE

GROUNDBORNE VIBRATION ANALYSIS

Project:	19599 Nance Street Trailer Yard	Date:	12/22/23
Source:	Vibratory Roller		
Scenario:	Unmitigated		
Location:	Residential to Adjacent to Southern Portions of Project Site		
Address:	W Nance St, Perris		

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 =	42.00	Distance from Equipment to Receiver (ft)	
n =	1.50	Vibration attenuation rate through the ground	

Note: Based on reference equations from the Transportation and Construction Vibration Guidance Manual, California Department of Transportation, April 2020, pg 37.

RESULTS

PPV =	0.096	IN/SEC	OUTPUT IN BLUE

GROUNDBORNE VIBRATION ANALYSIS

Project:	19599 Nance Street Trailer Yard	Date:	12/22/23
Source:	Large Bulldozer		
Scenario:	Unmitigated		
Location:	Residential to Adjacent to Southern Portions of Project Site		
Address:	W Nance St, Perris		

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 =	42.00	Distance from Equipment to Receiver (ft)	
n =	1.50	Vibration attenuation rate through the ground	

Note: Based on reference equations from the Transportation and Construction Vibration Guidance Manual, California Department of Transportation, April 2020, pg 37.

RESULTS

PPV =	0.041	IN/SEC	OUTPUT IN BLUE

GROUNDBORNE VIBRATION ANALYSIS

Project:	19599 Nance Street Trailer Yard	Date:	12/22/23
Source:	Vibratory Roller		
Scenario:	Unmitigated		
Location:	Commercial to Southeast		
Address:	Auto Aide Towing, 845 W Nance Street, Perris		

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 the Transportation and Construction Vibration Guidance Manual, California Department of Transportation, April 2020, pg 37.

RESULTS

PPV =	26.250	IN/SEC	OUTPUT IN BLUE

GROUNDBORNE VIBRATION ANALYSIS

Project:	19599 Nance Street Trailer Yard	Date:	12/22/23
Source:	Large Bulldozer		
Scenario:	Unmitigated		
Location:	Commercial to Southeast		
Address:	Auto Aide Towing, 845 W Nance Street, Perris		

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 the Transportation and Construction Vibration Guidance Manual, California Department of Transportation, April 2020, pg 37.

RESULTS

PPV =	11.125	IN/SEC	OUTPUT IN BLUE

GROUNDBORNE VIBRATION ANALYSIS

Project:	19599 Nance Street Trailer Yard	Date:	12/22/23
Source:	Vibratory Roller		
Scenario:	Unmitigated		
Location:	Commercial to East		
Address:	IAA-ACE Perris 2, 775 Harley Knox Boulevard, Perris		

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 =	655.00	Distance from Equipment to Receiver (ft)	
n =	1.50	Vibration attenuation rate through the ground	

Note: Based on reference equations from the Transportation and Construction Vibration Guidance Manual, California Department of Transportation, April 2020, pg 37.

RESULTS

PPV =	0.002	IN/SEC	OUTPUT IN BLUE

GROUNDBORNE VIBRATION ANALYSIS

Project:	19599 Nance Street Trailer Yard	Date:	12/22/23
Source:	Large Bulldozer		
Scenario:	Unmitigated		
Location:	Commercial to East		
Address:	IAA-ACE Perris 2, 775 Harley Knox Boulevard, Perris		

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 =	655.00	Distance from Equipment to Receiver (ft)	
n =	1.50	Vibration attenuation rate through the ground	

Note: Based on reference equations from the Transportation and Construction Vibration Guidance Manual, California Department of Transportation, April 2020, pg 37.

RESULTS

PPV =	0.001	IN/SEC	OUTPUT IN BLUE

GROUNDBORNE VIBRATION ANALYSIS			
Project:	19599 Nance Street Trailer Yard		Date: 12/22/23
Source:	Vibratory Roller		
Scenario:	Unmitigated		
Location:	Annoyance - Distance to 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 =	17.00	Distance from Equipment to Receiver (ft)	
n =	1.50	Vibration attenuation rate through the ground	
Note: Based on reference equations from the Transportation and Construction Vibration Guidance Manual, California Department of Transportation, April 2020, pg 37.			
RESULTS			
PPV =	0.375	IN/SEC	OUTPUT IN BLUE

GROUNDBORNE VIBRATION ANALYSIS			
Project:	19599 Nance Street Trailer Yard		Date: 12/22/23
Source:	Large Bulldozer		
Scenario:	Unmitigated		
Location:	Annoyance - Distance to 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 =	10.00	Distance from Equipment to Receiver (ft)	
n =	1.50	Vibration attenuation rate through the ground	
Note: Based on reference equations from the Transportation and Construction Vibration Guidance Manual, California Department of Transportation, April 2020, pg 37.			
RESULTS			
PPV =	0.352	IN/SEC	OUTPUT IN BLUE

GROUNDBORNE VIBRATION ANALYSIS			
Project:	19599 Nance Street Trailer Yard		Date: 12/22/23
Source:	Vibratory Roller		
Scenario:	Unmitigated		
Location:	Damage - Distance to Threshold for Commercial/Industrial Uses		
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 the Transportation and Construction Vibration Guidance Manual, California Department of Transportation, April 2020, pg 37.			
RESULTS			
PPV =	0.452	IN/SEC	OUTPUT IN BLUE

GROUNDBORNE VIBRATION ANALYSIS			
Project:	19599 Nance Street Trailer Yard		Date: 12/22/23
Source:	Large Bulldozer		
Scenario:	Unmitigated		
Location:	Damage - Distance to Threshold for Commercial/Industrial Uses		
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 the Transportation and Construction Vibration Guidance Manual, California Department of Transportation, April 2020, pg 37.			
RESULTS			
PPV =	0.492	IN/SEC	OUTPUT IN BLUE

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