



Magnolia Flats Mixed-Use Project

Appendix K

Noise Impact Analysis

NOISE IMPACT REPORT

MAGNOLIA FLATS MIXED-USE PROJECT

CITY OF RIVERSIDE

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ACRONYMS AND ABBREVIATIONS

ANSI	American National Standards Institute
Caltrans	California Department of Transportation
CEQA	California Environmental Quality Act
City	City of Riverside
cmu	Concrete masonry unit
CNEL	Community Noise Equivalent Level
dB	Decibel
dBA	A-weighted decibels
DOT	Department of Transportation
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
EPA	Environmental Protection Agency
Hz	Hertz
Ldn	Day-night average noise level
Leq	Equivalent sound level
Lmax	Maximum noise level
OSB	Oriented Strand Board
OSHA	Occupational Safety and Health Administration
PPV	Peak particle velocity
RMS	Root mean square
SEL	Single Event Level or Sound Exposure Level
STC	Sound Transmission Class
VdB	Vibration velocity level in decibels

1.0 INTRODUCTION

1.1 Purpose of Analysis

This Noise Impact Report has been prepared to determine the traffic and stationary source noise impacts associated with the proposed Magnolia Flats Mixed-Use project (proposed project). The project site was analyzed in the *2014-2021 Housing Element Update Housing Implementation Plan Final Environmental Impact Report* (December 2017) and is eligible for infill streamlining pursuant to Public Resources Code Section 21094.5 and CEQA Guidelines Section 15183.3. The Mitigation Monitoring and Reporting Program included in the Housing Element Update FEIR included the following Mitigation Measure:

Mitigation Measure NOI-4 Traffic and Stationary Source Noise Impacts

Prior to demolition, grading, or building permit approval, an Operational Noise Assessment shall be prepared for multi-family residential projects that would result in the following:

- Existing Plus Project and Future Plus Project Traffic Noise Impacts: A permanent increase in ambient noise levels of 3.0 dB or greater and a noise level that would exceed the following applicable Riverside Municipal Code Title 7 interior/exterior noise standards at the noise sensitive receptor (or those in place at the time of the development application).
- Stationary Noise Impacts: A noise level that would exceed the following applicable Riverside Municipal Code Title 7 interior/exterior noise standards at the noise sensitive receptor (or those in place at the time of the development application).

Future development would be required to mitigate noise impacts for compliance with RMC Title 7 noise standards.

Land Use Category	RMC Title 7 Noise Standards	
	Interior	Exterior
Residential	35 dBA (10 PM to 7 AM)	45 dBA (10 PM to 7 AM)
	45 dBA (7 AM to 10 PM)	55 dBA (7 AM to 10 PM)
Office/commercial	N/A	65 dBA (any time)
Industrial	N/A	70 dBA (any time)
Community support	N/A	60 dBA (any time)
Public recreation facility	N/A	65 dBA (any time)
Nonurban	N/A	70 dBA (any time)
School	45 dBA (7 AM to 10 PM while school is in session)	N/A
Hospital	45 dBA (any time)	N/A

Source: City of Riverside Municipal Code Title 7, Noise Control.

This Noise Impact Report has been prepared to address the requirements detailed in Mitigation Measure NOI-4.

1.2 Site Location and Study Area

The project site is located in the western portion of the City of Riverside (City) at 10411 – 10491 Magnolia Avenue. The approximately 16.3 acre is the former location of a commercial retail center and the northern portion of the project site is currently vacant and the southern portion of the project site is currently utilized as a parking lot. The project site is bounded by single-family homes to the north, commercial retail uses to the east, commercial retail uses and Magnolia Avenue to the south, and a mobile home park to the west. The project study area is shown in Figure 1.

1.3 Proposed Project Description

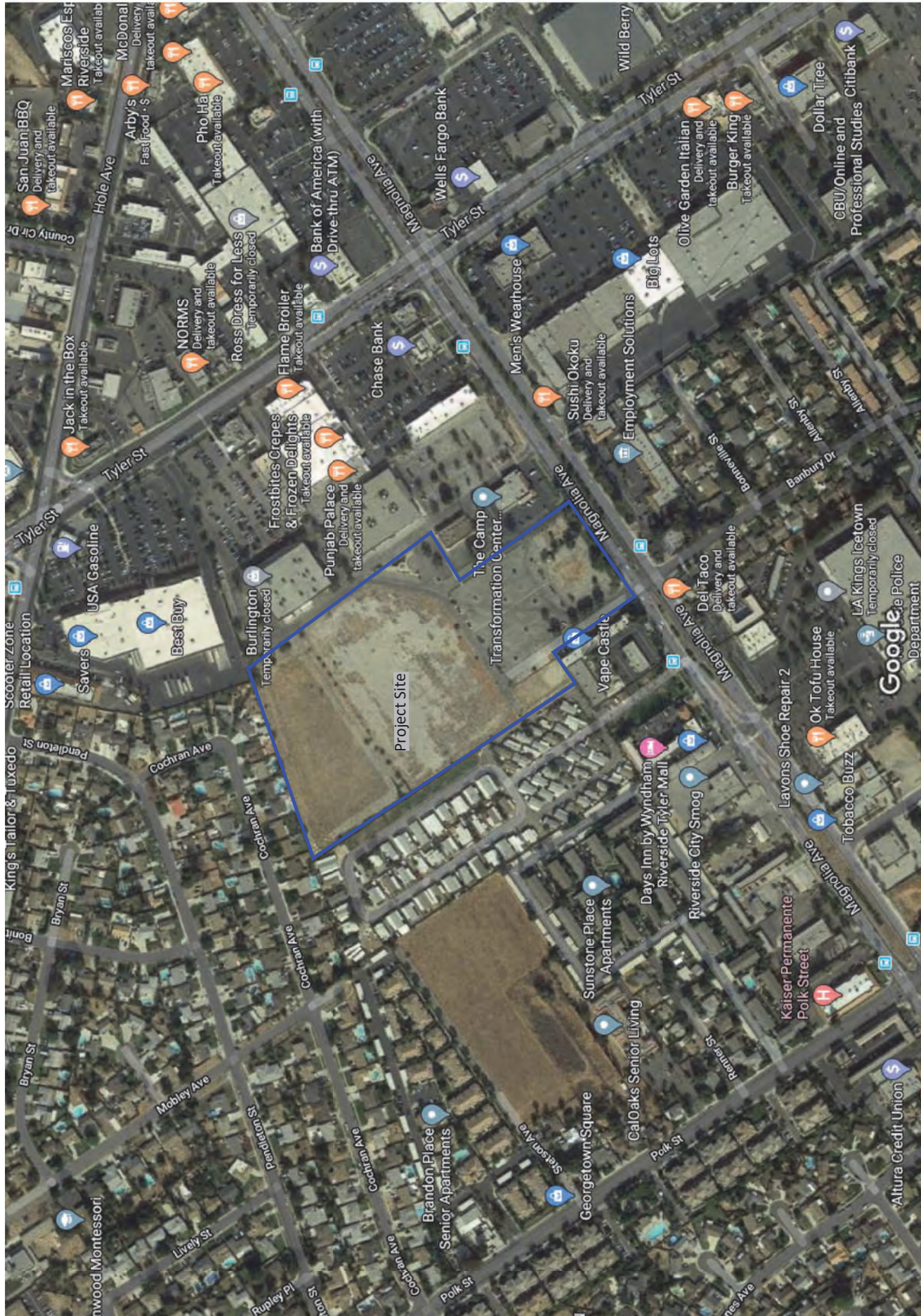
The proposed project consists of the development of a mixed-use project that would include a residential apartment complex with 450 residential units and a 10,000 square foot commercial component that is planned to be a food hall. Approximately 2.26 acres of common open space area would be provided that would include a dog park and tot lot on the northern portion of the project site, a pool and spa area in the central portion of the residential apartment complex, and a retail courtyard located between the two proposed commercial buildings. The proposed project would also include approximately 833 parking spaces located in several parking lots throughout the project site. The site plan is shown in Figure 2 and the conceptual wall and fence plan is shown in Figure 3.

1.4 Project Design Features Incorporated into the Proposed Project

This analysis was based on implementation of the following project design features that are depicted on the plans for the project.

Project Design Feature 1:

The project applicant shall require that the pool and spa area is closed between the hours of 10 PM and 7 AM every day of the week. The pool and spa hours shall be specified in all lease agreements as well as posted at every entrance to the pool and spa area.



SOURCE: Google Maps.



Figure 1
Project Location Map

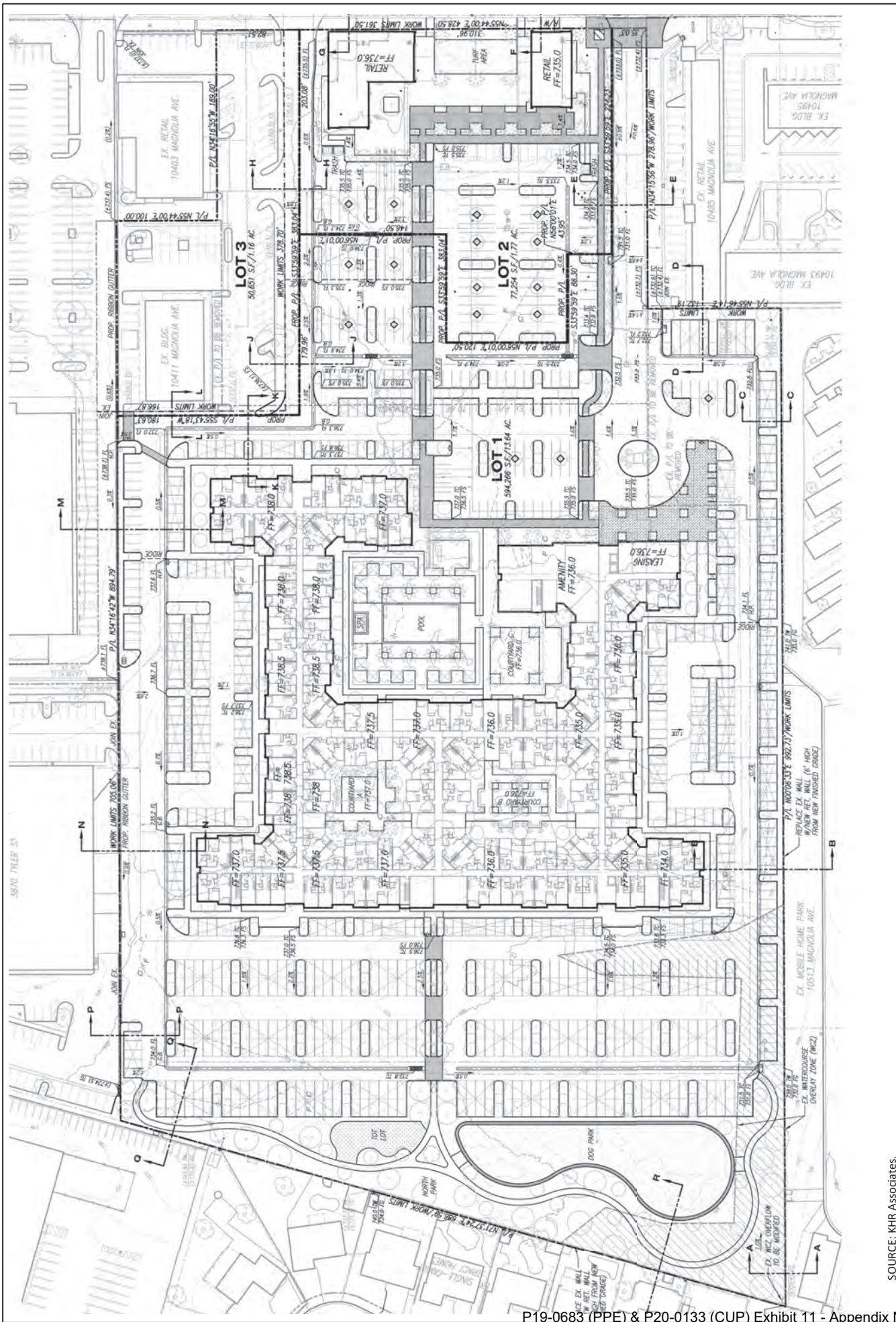


Figure 2
Site Plan

SOURCE: KHR Associates.



2.0 NOISE FUNDAMENTALS

Noise is defined as unwanted sound. Sound becomes unwanted when it interferes with normal activities, when it causes actual physical harm or when it has adverse effects on health. Sound is produced by the vibration of sound pressure waves in the air. Sound pressure levels are used to measure the intensity of sound and are described in terms of decibels. The decibel (dB) is a logarithmic unit which expresses the ratio of the sound pressure level being measured to a standard reference level. A-weighted decibels (dBA) approximate the subjective response of the human ear to a broad frequency noise source by discriminating against very low and very high frequencies of the audible spectrum. They are adjusted to reflect only those frequencies which are audible to the human ear.

2.1 Noise Descriptors

Noise Equivalent sound levels are not measured directly, but are calculated from sound pressure levels typically measured in A-weighted decibels (dBA). The equivalent sound level (Leq) represents a steady state sound level containing the same total energy as a time varying signal over a given sample period. The peak traffic hour Leq is the noise metric used by California Department of Transportation (Caltrans) for all traffic noise impact analyses.

The Day-Night Average Level (Ldn) is the weighted average of the intensity of a sound, with corrections for time of day, and averaged over 24 hours. The time of day corrections require the addition of ten decibels to sound levels at night between 10 p.m. and 7 a.m. While the Community Noise Equivalent Level (CNEL) is similar to the Ldn, except that it has another addition of 4.77 decibels to sound levels during the evening hours between 7 p.m. and 10 p.m. These additions are made to the sound levels at these time periods because during the evening and nighttime hours, when compared to daytime hours, there is a decrease in the ambient noise levels, which creates an increased sensitivity to sounds. For this reason the sound appears louder in the evening and nighttime hours and is weighted accordingly. The City of Riverside relies on the CNEL noise standard to assess transportation-related impacts on noise sensitive land uses.

2.2 Tone Noise

A pure tone noise is a noise produced at a single frequency and laboratory tests have shown that humans are more perceptible to changes in noise levels of a pure tone. For a noise source to contain a “pure tone,” there must be a significantly higher A-weighted sound energy in a given frequency band than in the neighboring bands, thereby causing the noise source to “stand out” against other noise sources. A pure tone occurs if the sound pressure level in the one-third octave band with the tone exceeds the average of the sound pressure levels of the two contiguous one-third octave bands by:

- 5 dB for center frequencies of 500 hertz (Hz) and above
- 8 dB for center frequencies between 160 and 400 Hz
- 15 dB for center frequencies of 125 Hz or less

2.3 Noise Propagation

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, radiate 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.

2.4 Ground Absorption

The sound drop-off rate is highly dependent on the conditions of the land between the noise source and receiver. To account for this ground-effect attenuation (absorption), two types of site conditions are commonly used in traffic noise models, soft-site and hard-site conditions. Soft-site conditions account for the sound propagation loss over natural surfaces such as normal earth and ground vegetation. For point sources, a drop-off rate of 7.5 dBA/DD is typically observed over soft ground with landscaping, as compared with a 6.0 dBA/DD drop-off rate over hard ground such as asphalt, concrete, stone and very hard packed earth. For line sources a 4.5 dBA/DD is typically observed for soft-site conditions compared to the 3.0 dBA/DD drop-off rate for hard-site conditions. Caltrans research has shown that the use of soft-site conditions is more appropriate for the application of the Federal Highway Administration (FHWA) traffic noise prediction model used in this analysis.

3.0 GROUND-BORNE VIBRATION FUNDAMENTALS

Ground-borne vibrations consist of rapidly fluctuating motions within the ground that have an average motion of zero. The effects of ground-borne vibrations typically only cause a nuisance to people, but at extreme vibration levels damage to buildings may occur. Although ground-borne vibration can be felt outdoors, it is typically only an annoyance to people indoors where the associated effects of the shaking of a building can be notable. Ground-borne noise is an effect of ground-borne vibration and only exists indoors, since it is produced from noise radiated from the motion of the walls and floors of a room and may also consist of the rattling of windows or dishes on shelves.

3.1 Vibration Descriptors

There are several different methods that are used to quantify vibration amplitude such as the maximum instantaneous peak in the vibrations velocity, which is known as the peak particle velocity (PPV) or the root mean square (rms) amplitude of the vibration velocity. Due to the typically small amplitudes of vibrations, vibration velocity is often expressed in decibels and is denoted as (L_v) and is based on the rms velocity amplitude. A commonly used abbreviation is “VdB”, which in this text, is when L_v is based on the reference quantity of 1 micro inch per second.

3.2 Vibration Perception

Typically, developed areas are continuously affected by vibration velocities of 50 VdB or lower. These continuous vibrations are not noticeable to humans whose threshold of perception is around 65 VdB. Off-site sources that may produce perceptible vibrations are usually caused by construction equipment, steel-wheeled trains, and traffic on rough roads, while smooth roads rarely produce perceptible ground-borne noise or vibration.

3.3 Vibration Propagation

The propagation of ground-borne vibration is not as simple to model as airborne noise. This is due to the fact that noise in the air travels through a relatively uniform median, while ground-borne vibrations travel through the earth which may contain significant geological differences. 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. P-waves, or compression 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. S-waves, or shear 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 vibration energy decreases in a logarithmic nature and the vibration levels typically decrease by 6 VdB per doubling of the distance from the vibration source. As stated above, this drop-off rate can vary greatly depending on the soil but has been shown to be effective enough for screening purposes, in order to identify potential vibration impacts that may need to be studied through actual field tests.

4.0 EXISTING NOISE AND VIBRATION CONDITIONS

To determine the existing noise levels, noise measurements have been taken in the vicinity of the project site. The field survey noted that noise within the proposed project area is generally characterized by vehicle traffic on the roadways in the nearby shopping centers and vehicles on Magnolia Avenue that is located adjacent to the south side of the project site, and aircraft overflights that are following State Route 91 that is located approximately a half mile south of the project site. The following describes the measurement procedures, measurement locations, and measurement results of the existing noise environment.

5.1 Noise Measurement Equipment

The noise measurements were taken using two Extech Model 407780 Type 2 integrating sound level meters and two Larson Davis Model LXT1 Type 1 sound level meters. All sound level meters were programed in “slow” mode. The Extech meters recorded the sound pressure level at 3-second intervals and the Larson Davis meters recorded the sound pressure level at 1-second intervals. All sound level meters recorded noise levels for approximately 24 hours in “A” weighted form. In addition, the L_{eq} averaged over the entire measuring time and L_{max} were recorded with all sound level meters. The sound level meters and microphones were mounted on trees and fences approximately six feet above the ground and were equipped with windscreens during all measurements. The Extech sound level meters were calibrated before and after the monitoring using an Extech calibrator, Model 407766 and the Larson Davis meters were calibrated before and after the monitoring using a Larson Davis Cal200 calibrator. All noise level measurement equipment meets American National Standards Institute specifications for sound level meters (S1.4-1983 identified in Chapter 19.68.020.AA).

Noise Measurement Location

The noise monitoring locations were selected in order to obtain noise levels on the project site and in the vicinity of the nearby sensitive receptors. Descriptions of the noise monitoring sites are provided below in Table A and are shown in Figure 4. Appendix A includes a photo index of the study area and noise level measurement locations.

Noise Measurement Timing and Climate

The noise measurements were recorded between 11:36 a.m. on Monday, December 9, 2019 and 11:59 a.m. on Tuesday, December 10, 2019. When the noise measurements were started the sky was partly cloudy, the temperature was 64 degrees Fahrenheit, the humidity was 50 percent, barometric pressure was 29.24 inches of mercury, and the wind was blowing around three miles per hour. Overnight, the temperature dropped to 41 degrees Fahrenheit. At the conclusion of the noise measurements, the sky was partly cloudy, the temperature was 66 degrees Fahrenheit, the humidity was 49 percent, barometric pressure was 29.40 inches of mercury, and there was no wind.

5.2 Noise Measurement Results

The results of the noise level measurements are presented in Table A. The measured sound pressure levels in dBA have been used to calculate the minimum and maximum L_{eq} averaged over 1-hour intervals. Table A also shows the L_{eq} , L_{max} , and L_{dn} , based on the entire measurement time. The noise monitoring data printouts are included in Appendix B.

Table A – Existing (Ambient) Noise Level Measurements

Site No.	Site Description	Average (dBA L _{eq})		1-hr Average (dBA L _{eq} /Time)		Average (dBA CNEL)
		Daytime ¹	Nighttime ²	Minimum	Maximum	
1	Located on the wall on the north property line, approximately 80 feet west of the northeast corner of the project site.	53.1	55.1	45.7 3:43 p.m.	61.1 6:21 a.m.	62.6
2	Located on a tree in front of mobile home unit H9, approximately 85 west of the west side of the project site.	53.0	53.3	45.4 6:02 p.m.	59.5 6:27 a.m.	60.9
3	Located on the fence on the east side of the project site near a fire hydrant, approximately 310 feet south of the northeast corner of the project site.	57.1	57.2	51.6 2:18 a.m.	62.5 6:21 a.m.	64.2
4	Located on the fence on the project site near the existing terminus of Banbury Drive, approximately 570 feet north of Magnolia Avenue centerline.	58.8	58.2	52.6 3:22 p.m.	66.4 9:47 p.m.	65.6

Notes:

¹ Daytime defined as 7:00 a.m. to 10:00 p.m. (Section 11.05.040 of the Municipal Code)

² Nighttime define as 10:00 p.m. to 7:00 a.m. (Section 11.05.040 of the Municipal Code)

Source: Noise measurements taken between Monday, December 9 and Tuesday, December 10, 2020.



Figure 4
Field Noise Monitoring Locations

5.0 MODELING PARAMETERS AND ASSUMPTIONS

5.1 FHWA Traffic Noise Model Methodology

The proposed project would result in increases in traffic noise to the nearby roadways. The project impacts to the offsite roadways were analyzed through use of the FHWA Traffic Noise Prediction Model - FHWA-RD-77-108 (FHWA Model). The FHWA Model arrives at a predicted noise level through a series of adjustments to the Reference Energy Mean Emission Level (REMEL). Adjustments are then made to the reference energy mean emission level to account for: the roadway active width (i.e., the distance between the center of the outermost travel lanes on each side of the roadway), the total average daily traffic (ADT) and the percentage of ADT which flows during the day, evening and night, the travel speed, the vehicle mix on the roadway, which is a percentage of the volume of automobiles, medium trucks and heavy trucks, the roadway grade, the angle of view of the observer exposed to the roadway and site conditions ("hard" or "soft" relates to the absorption of the ground, pavement or landscaping). The following section provides a discussion of the software and modeling input parameters used in this analysis and a discussion of the resultant existing noise model.

FHWA Model Traffic Noise Prediction Model Inputs

The roadway parameters used for this study are presented in Table B. The roadway classifications are based on the City's General Plan Circulation Element. The roadway speeds are based on the posted speed limits. The distance to the nearest sensitive receptor was determined by measuring the distance from the roadway centerline to the nearest residence. Since the study area is located in a suburban environment and landscaping exists along the sides of all analyzed roadways, soft site conditions were modeled.

Table B – FHWA Model Roadway Parameters

Roadway	Segment	General Plan Classification	Vehicle Speed (MPH)	Distance to Nearest Receptor ¹ (feet)
Polk Street	North of Magnolia Avenue	88 FT Arterial	40	55
Polk Street	South of Magnolia Avenue	88 FT Arterial	40	65
Banbury Drive	South of Magnolia Avenue	Local	25	40
Magnolia Avenue	West of Polk Street	110 Ft Arterial	40	110
Magnolia Avenue	West of Banbury Drive	120 FT Arterial	40	110
Magnolia Avenue	East of Banbury Drive	120 FT Arterial	40	280

Notes:

¹ Distance measured from nearest sensitive receptor structure to centerline of roadway.

Source: City of Moreno Valley, 2006.

The existing year without project and with project average daily traffic (ADT) volumes on the study area roadways were obtained from the *Magnolia Flats Project Focused Traffic Impact Analysis* (Traffic Impact Analysis) prepared by Environmental Planning Development Solutions, Inc., December 20, 2019. The ADT volumes were calculated by multiplying the PM peak hour volumes by 12. The ADT volumes have been provided for both without the project and with project conditions for the existing year scenario. The ADT volumes used in this analysis are shown in Table C.

Table C – Average Daily Traffic Volumes

Roadway	Segment	Average Daily Traffic Volumes	
		Existing	Existing + Project
Polk Street	North of Magnolia Avenue	6,540	6,720
Polk Street	South of Magnolia Avenue	5,660	5,840
Banbury Drive	South of Magnolia Avenue	3,590	3,770
Magnolia Avenue	West of Polk Street	29,420	30,650
Magnolia Avenue	West of Banbury Drive	30,300	31,870
Magnolia Avenue	East of Banbury Drive	31,190	32,450

Source: EPD Solutions, Inc., 2019

The vehicle mix used in the FHWA-RD-77-108 Model is shown in Table D and is based on the typical vehicle mixes observed for local and arterial roadways in Riverside County. The vehicle mix provides the hourly distribution percentages of automobiles, medium trucks, and heavy trucks for input into the FHWA model.

Table D – Roadway Vehicle Mixes

Vehicle Type	Traffic Flow Distributions			Overall
	Day (7 a.m. to 7 p.m.)	Evening (7 p.m. to 10 p.m.)	Night (10 p.m. to 7 a.m.)	
Local Vehicle Mix				
Automobiles	73.6%	13.6%	10.2%	97.42%
Medium Trucks	0.9%	0.9%	0.0%	1.84%
Heavy Trucks	0.4%	0.0%	0.4%	0.74%
Arterial Vehicle Mix				
Automobiles	69.5%	12.9%	9.6%	92.0%
Medium Trucks	1.4%	0.1%	1.5%	3.0%
Heavy Trucks	2.4%	0.1%	2.5%	5.0%

Source: Vista Environmental and Riverside County General Plan, 2008.

FHWA Model Source Assumptions

To assess the roadway noise generation in a uniform manner, all vehicles are analyzed at the single lane equivalent acoustic center of the roadway being analyzed. In order to determine the height above the road grade where the noise is being emitted from, each type of vehicle has been analyzed independently with autos at road grade, medium trucks at 2.3 feet above road grade, and heavy trucks at 8 feet above road grade. These elevations were determined through a noise-weighted average of the elevation of the exhaust pipe, tires and mechanical parts in the engine, which are the primary noise emitters from a vehicle.

6.0 IMPACT ANALYSIS

As detailed in Section 1.1, this Noise Impact Report has been prepared in order to determine compliance with Mitigation Measure NOI-4 from the *2014-2021 Housing Element Update Housing Implementation Plan Final Environmental Impact Report* (December 2017) that requires the preparation of an operational noise assessment in order to determine if the proposed project would result in the following noise issues:

- Existing Plus Project and Future Plus Project Traffic Noise Impacts: A permanent increase in ambient noise levels of 3.0 dB or greater and a noise level that would exceed the following applicable Riverside Municipal Code Title 7 interior/exterior noise standards at the noise sensitive receptor (or those in place at the time of the development application).
- Stationary Noise Impacts: A noise level that would exceed the following applicable Riverside Municipal Code Title 7 interior/exterior noise standards at the noise sensitive receptor (or those in place at the time of the development application).

Future development would be required to mitigate noise impacts for compliance with RMC Title 7 noise standards.

Land Use Category	RMC Title 7 Noise Standards	
	Interior	Exterior
Residential	35 dBA (10 PM to 7 AM)	45 dBA (10 PM to 7 AM)
	45 dBA (7 AM to 10 PM)	55 dBA (7 AM to 10 PM)
Office/commercial	N/A	65 dBA (any time)
Industrial	N/A	70 dBA (any time)
Community support	N/A	60 dBA (any time)
Public recreation facility	N/A	65 dBA (any time)
Nonurban	N/A	70 dBA (any time)
School	45 dBA (7 AM to 10 PM while school is in session)	N/A
Hospital	45 dBA (any time)	N/A

Source: City of Riverside Municipal Code Title 7, Noise Control.

Both conditions in Mitigation Measure NOI-4 have been analyzed separately below.

6.1 Proposed Project Traffic Noise Impacts

Vehicle noise is a combination of the noise produced by the engine, exhaust and tires. The level of traffic noise depends on three primary factors (1) the volume of traffic, (2) the speed of traffic, and (3) the number of trucks in the flow of traffic. The proposed project does not propose any uses that would require a substantial number of truck trips and the proposed project would not alter the speed limit on any existing roadway so the proposed project's potential offsite noise impacts have been focused on the noise impacts associated with the change of volume of traffic that would occur with development of the proposed project.

Mitigation Measure NOI-4 requires that the traffic noise impacts be analyzed for both the project-generated vehicle traffic noise impacts onto the nearby existing sensitive receptors and the traffic noise impacts onto the proposed homes, which are analyzed below.

Project Generated Traffic Noise Impacts onto the Offsite Sensitive Receptors

The potential offsite traffic noise impacts created by the on-going operations of the proposed project have been analyzed through utilization of the FHWA model and parameters described above in Section 5.1 and the FHWA model traffic noise calculation spreadsheets are provided in Appendix C. The proposed project’s offsite traffic noise impacts have been calculated through a comparison of the existing year scenario to the existing year with project scenario. The results of this comparison are shown in Table E.

Table E – Project Traffic Noise Contributions

Roadway	Segment	dBA CNEL at Nearest Receptor ¹			Exceed +3 dBA Threshold?
		Existing	Existing Plus Project	Project Contribution	
Polk Street	North of Magnolia Avenue	62.4	62.5	0.1	No
Polk Street	South of Magnolia Avenue	60.6	60.7	0.1	No
Banbury Drive	South of Magnolia Avenue	55.6	55.8	0.2	No
Magnolia Avenue	West of Polk Street	64.4	64.6	0.2	No
Magnolia Avenue	West of Banbury Drive	64.7	65.0	0.3	No
Magnolia Avenue	East of Banbury Drive	58.3	58.5	0.2	No
Polk Street	North of Magnolia Avenue	62.4	62.5	0.1	No

Notes:

¹ Distance to nearest residential use shown in Table B, does not take into account existing noise barriers.

² Threshold from Mitigation Measure NOI-4.

Source: FHWA Traffic Noise Prediction Model FHWA-RD-77-108.

Table E shows that the proposed project’s traffic noise impacts would increase roadway noise by as much as 0.3 dB on Magnolia Avenue west of Banbury Drive. The proposed project’s traffic noise impacts would be well below the 3.0 dB increase threshold detailed in MM NOI-4 from the Housing Element EIR. As such the traffic noise impacts generated from the proposed project would be within the traffic noise standard requirements detailed in MM NOI-4.

Traffic Noise Impacts onto the Proposed Residential Apartment Units

The potential roadway traffic noise impacts to the proposed residential apartment units have been analyzed through utilization of the same FHWA model used for the offsite traffic noise analysis. Mitigation Measure NOI-4 states that the noise level at the proposed residential apartment units cannot exceed the residential interior and exterior noise standards provided in Riverside Municipal Code Title 7. This mitigation measure was incorrectly worded, since the noise standards provided in Title 7 only apply to stationary noise sources, since noise created from public roadways is a preempted activity that the City does not have the authority to control and Section 7.35.020(C) of the Municipal Code states that federal or state preempted activities are exempt from the Title 7 noise standards. Mitigation Measure NOI-4 should have stated that the noise levels at the proposed sensitive receptors need to meet the noise/land use compatibility criteria detailed in Figure N-10 of the General Plan, which provide the appropriate noise standards for making land use planning decisions for projects located near transportation-related noise sources.

However, this is a unique project, where the nearest roadway (Magnolia Avenue) is located 500 feet from the nearest proposed residential unit, which results in a very low roadway noise impact to the proposed residential apartment units. As such the roadway noise impacts to the proposed residential units have been provided, solely for informative purposes. The roadway noise impacts from Magnolia Avenue to the proposed residential units is shown below in Table F. Since the City does not provide a standard exterior to interior noise reduction rate to utilize to calculate the interior noise levels, the standard exterior to interior noise reduction rate that is provided in the County of Riverside General Plan (County of Riverside, 2015) was utilized that details standard architecture with no additional noise attenuation features provides a minimum of 20 dB noise reduction.

Table F – Roadway Noise Impacts to the Proposed Residential Units

Roadway	Segment	Exterior Noise ¹ (dBA Leq)		Interior Noise ¹ (dBA Leq)	
		Day (7 AM to 10 PM)	Night (10 PM to 7 AM)	Day (7 AM to 10 PM)	Night (10 PM to 7 AM)
Magnolia Avenue	East of Banbury Drive	51.1	45.0	31.1	25.0
	Title 7 Noise Standards ²	55	45	45	35
	Exceed Standard?	No	No	No	No

Notes:

¹ Exterior noise based on the proposed residential units located as near as 500 feet from Magnolia Avenue centerline, does not take into account shielding provided by existing and proposed structures.

² Interior noise is based on 20 dBA of noise reduction per County of Riverside General Plan for standard architecture.

² Threshold from Mitigation Measure NOI-4.

Source: FHWA Traffic Noise Prediction Model FHWA-RD-77-108.

Table F shows that the exterior and interior noise levels for the proposed apartment units from roadway noise impacts would be within the Title 7 noise standards, however as stated above, this is provided for informational purposes only as the Title 7 noise standards do not apply to roadway noise impacts.

6.2 Proposed Stationary Noise Impacts to the Nearby Existing and Proposed Residential Units

The operation of the proposed project may create an increase in onsite noise levels from noise created from the proposed rooftop mechanical equipment, dog park, tot lot, pool and spa area, truck deliveries, outdoor dining and parking lot areas. In order to determine the noise impacts from these noise sources, reference noise measurements were taken of each noise source and are shown in Table G. Table G also shows the anticipated noise level from each source at the nearest off-site receptors. The operational reference noise measurements are shown in Appendix D and the noise reduction calculations provided by the existing and proposed sound walls are shown in Appendix E.

Table G – Project Stationary Source Noise Levels at the Nearby and Proposed Residential Uses

Location	At Single-Family Homes Property Line to West		At Mobile Homes Property Line to South		At Nearest Proposed Residential Unit	
	Distance (feet)	Noise Level ¹ (dBA Leq)	Distance (feet)	Noise Level ² (dBA Leq)	Distance (feet)	Noise Level ² (dBA Leq)
Rooftop Equipment ³	270	11	80	25	20	40
Dog Park ⁴	45	36	55	34	220	19
Tot Lot ⁵	25	41	355	13	220	18
Pool and Spa Area ⁶	550	20	300	27	50	54
Truck Delivery ⁷	350	21	100	34	50	42
Outdoor Dining ⁸	1,040	--	260	12	340	9
Parking Lot ⁹	30	25	5	43	25	27
Combined Noise from all Sources		43	--	44		54
City Noise Standards (Day/Night)		55/45		55/45		55/45
Exceed City Noise Standard?		No/No		No/No		No/Yes

Notes:

¹ The calculated noise levels account for the noise reduction provided by the existing 6-foot high wall on the west property line and the proposed 4-foot parapet wall on the roof for the Rooftop Equipment (see Appendix G).

² The calculated noise levels account the noise reduction provided by the existing 6-foot high wall on the south property line and the 4-foot parapet wall on the roof for the Rooftop Equipment (see Appendix G).

³ The rooftop equipment was based on a noise measurement 10 feet from an operational rooftop HVAC unit that measured 66.6 dBA Leq.

⁴ The dog park was based on a noise measurement as near as 10 feet from dogs at Laguna Beach Dog Park that measured 60.2 dBA Leq.

⁵ The tot lot was based on a noise measurement as near as 5 feet from children playing at a tot lot that measured 66.6 dBA Leq.

⁶ The pool and spa area was based on a noise measurement as near as 15 feet from a pool area with 50 people that measured 66.6 dBA Leq.

⁷ The truck delivery was based on a noise measurement 30 feet from a truck unloading that produced a noise level of 54.8 dBA Leq.

⁸ The outdoor dining was based on a noise measurement at the edge of an outdoor restaurant that produced a noise level of 62.6 dBA Leq.

⁹ The parking lot was based on a 24 hour measurement at the edge of an apartment complex parking lot that produced a noise level of 52.1 dBA Leq.

Source: Noise calculation methodology from Caltrans, 2013.

Table G shows that the combined noise levels from all onsite sources occurring simultaneously would be as high as 43 dBA at the shared property line with the single-family homes to the west and as high as 44 dBA at the shared property line with the mobile homes to the south. The combined noise levels at the single-family homes to the west and mobile homes to the south would be within the Title 7 residential exterior noise standards of 45 dBA during the nighttime and 55 dBA during the daytime. As such, the onsite stationary noise created from the proposed project at the single-family homes to the west and mobile homes to the south are in compliance with the stationary noise thresholds detailed in MM NOI-4 from the Housing Element EIR.

Table G also shows that the combined noise levels from all onsite sources occurring simultaneously would be as high as 54 dBA at the proposed residential apartment units, which would be within the Title 7 daytime residential exterior noise standard of 55 dBA, however would exceed the nighttime residential exterior noise standard of 45 dBA. Upon inspection of the noise sources, the noise impacts to the proposed residential units would be primarily created from the pool and spa area. As such, Project Design Feature 1 has been included in this analysis that requires the pool and spa area to be closed during the nighttime hours of 10 PM to 7 AM daily. With implementation of Project Design Feature 1, the combined noise levels from all onsite noise sources would be reduced to 44 dBA, which is within the nighttime noise standard. Therefore, with implementation of Project Design Feature 1, the onsite stationary noise impacts to the proposed residential apartment units would be in compliance with the stationary noise thresholds detailed in MM NOI-4 from the Housing Element EIR.

7.0 REFERENCES

California Department of Transportation, *2016 Annual Average Daily Truck Traffic on the California State Highway System*, 2018.

California Department of Transportation (Caltrans), *Technical Noise Supplement to the Traffic Noise Analytics Protocol*, September 2013.

California Department of Transportation, *Transportation- and Construction-Induced Vibration Guidance Manual*, September 2013.

City of Riverside, *City of Riverside General Plan 2025*, November, 2007.

City of Riverside, *City of Riverside Municipal Code*, March 27, 2018.

County of Riverside, *County of Riverside General Plan*, December 2015.

EPD Solutions, Inc., *Magnolia Flats Project Focused Traffic Impact Analysis*, December 20, 2019.

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

Michael Baker International, *2014-2021 Housing Element Update Housing Implementation Plan Environmental Impact Report*, August 2017.

APPENDIX A

Field Noise Measurements Photo Index



Noise Monitoring Site 1 - looking north



Noise Monitoring Site 1 - looking northeast



Noise Monitoring Site 1 - looking east



Noise Monitoring Site 1 - looking southeast



Noise Monitoring Site 1 - looking south



Noise Monitoring Site 1 - looking southwest



Noise Monitoring Site 1 - looking west



Noise Monitoring Site 1 - looking northwest



Noise Monitoring Site 2 - looking north



Noise Monitoring Site 2 - looking northeast



Noise Monitoring Site 2 - looking east



Noise Monitoring Site 2 - looking southeast



Noise Monitoring Site 2 - looking south



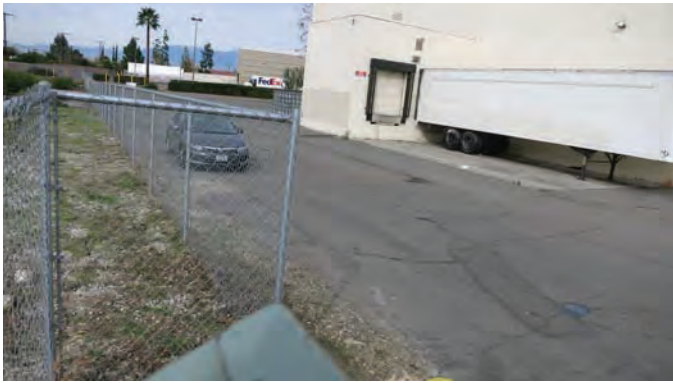
Noise Monitoring Site 2 - looking southwest



Noise Monitoring Site 2 - looking west



Noise Monitoring Site 2 - looking northwest



Noise Monitoring Site 3 - looking north



Noise Monitoring Site 3 - looking northeast



Noise Monitoring Site 3 - looking east



Noise Monitoring Site 3 - looking southeast



Noise Monitoring Site 3 - looking south



Noise Monitoring Site 3 - looking southwest



Noise Monitoring Site 3 - looking west



Noise Monitoring Site 3 - looking northwest



Noise Monitoring Site 4 - looking north



Noise Monitoring Site 4 - looking northeast



Noise Monitoring Site 4 - looking east



Noise Monitoring Site 4 - looking southeast



Noise Monitoring Site 4 - looking south



Noise Monitoring Site 4 - looking southwest



Noise Monitoring Site 4 - looking west



Noise Monitoring Site 4 - looking northwest

APPENDIX B

Field Noise Measurements Printouts

1 - On Wall on North Property Line Near NE Corner of Project

Table with columns: Date, Time, Sampling, Record Num, Leq, Max, Min. Values include 12/09/19, 11:36:07 AM, 53.1, 86400, 54.2, 82.7, 40.0.

1 - On Wall on North Property Line Near NE Corner of Project

Large table with columns: SPL, Time, Leq (1 hour Avg.), Ldn CNEL. Contains 973 rows of noise data.

2 - West of Project on Tree in front of H9 Mobil Home

Table with columns: Date, Time, Sampling, Record Num, Leq, Max, Min. Values include 12/09/19, 11:59:15 AM, 53.0, 86400, 53.2, 73.0, 0.0.

2 - West of Project on Tree in front of H9 Mobil Home

Large table with columns: SPL, Time, Leq (1 hour Avg.), Ldn CNEL. Contains 973 rows of noise data.

3 - On Fence on East Property Line next to Fire Hydrant

Table with columns: Date, Time, Sampling, Record Num, Leq, Max, Min. Values include 12/09/19, 11:43:00 AM, 57.1, 29400, 57.1, 43.2.

3 - On Fence on East Property Line next to Fire Hydrant

Large table with columns: SPL, Time, Leq (1 hour Avg.), Ldn CNEL. Contains 973 rows of noise data.

4 - On Project Site Fence at Terminus of Banbury Dr

Table with columns: Date, Time, Sampling, Record Num, Leq, Max, Min. Values include 12/09/19, 11:50:00 AM, 58.2, 29200, 46.5, 46.5.

4 - On Project Site Fence at Terminus of Banbury Dr

Large table with columns: SPL, Time, Leq (1 hour Avg.), Ldn CNEL. Contains 973 rows of noise data.

Table with columns for site descriptions and corresponding SPL, Time, and Ldn CNEL values. The table is organized into four main sections: 1 - On Wall on North Property Line Near NE Corner of Project, Site 2 - West of Project on Tree in front of H9 Mobile Home, Site 3 - On Fence on East Property Line next to Fire Hydrant, and Site 4 - On Project Site Fence at Terminus of Banbury Dr. Each section contains multiple rows of data points representing different noise scenarios or locations.

1 - On Wall on North Property Line Near NE Corner of Project

Table with columns: SPL, Time, Leq (1 hour Avg.), Ldn CNEL. Contains 100 rows of noise data for the north property line.

2 - West of Project on Tree in front of H9 Mobile Home

Table with columns: SPL, Time, Leq (1 hour Avg.), Ldn CNEL. Contains 100 rows of noise data for the mobile home area.

Site 3 - On Fence on East Property Line next to Fire Hydrant

Table with columns: SPL, Time, Leq (1 hour Avg.), Ldn CNEL. Contains 100 rows of noise data for the fire hydrant area.

Site 4 - On Project Site Fence at Terminus of Banbury Dr

Table with columns: SPL, Time, Leq (1 hour Avg.), Ldn CNEL. Contains 100 rows of noise data for the Banbury Dr area.

2 - On Wall on North Property Line Near NE Corner of Project			Site 2 - West of Project on Tree in front of H9 Mobile Home			Site 3 - On Fence on East Property Line next to Fire Hydrant			Site 4 - On Project Site Fence at Terminus of Banbury Dr						
SPL	Time	Leq (1 hour Avg.)	Ldn CNEL	SPL	Time	Leq (1 hour Avg.)	Ldn CNEL	SPL	Time	Leq (1 hour Avg.)	Ldn CNEL	SPL	Time	Leq (1 hour Avg.)	Ldn CNEL
46.0	11:51:28		46.0	46.0	44.0	12:14:36	44.0	44.0	55.9	12:29:03	57.2	55.9	55.9	52.3	52.3
46.0	11:51:29		46.0	46.0	43.4	12:14:37	43.4	43.4	56.5	12:29:06	57.2	56.5	56.5	50.9	50.9
45.5	11:51:30		45.5	45.5	43.6	12:14:38	43.6	43.6	55.6	12:29:09	57.2	55.6	55.6	51.5	51.5
46.1	11:51:31		46.1	46.1	43.0	12:14:39	43.0	43.0	55.2	12:29:12	57.2	55.2	55.2	52.3	52.3
46.2	11:51:32		46.2	46.2	43.1	12:14:40	43.1	43.1	55.8	12:29:15	57.2	55.8	55.8	53.7	53.7
46.3	11:51:33		46.3	46.3	43.2	12:14:41	43.2	43.2	55.1	12:29:18	57.2	55.1	55.1	54.1	54.1
46.5	11:51:34		46.5	46.5	43.5	12:14:42	43.5	43.5	55.4	12:29:21	57.2	55.4	55.4	53.7	53.7
46.8	11:51:35		46.8	46.8	43.5	12:14:43	43.5	43.5	56.4	12:29:24	57.2	56.4	56.4	52.6	52.6
46.8	11:51:36		46.8	46.8	43.8	12:14:44	43.8	43.8	56.2	12:29:27	57.2	56.2	56.2	53	53
46.7	11:51:37		46.7	46.7	44.0	12:14:45	44.0	44.0	56.2	12:29:30	57.2	56.2	56.2	54.2	54.2
46.5	11:51:38		46.5	46.5	43.9	12:14:46	43.9	43.9	55.1	12:29:33	57.2	55.1	55.1	54.1	54.1
46.3	11:51:39		46.3	46.3	43.8	12:14:47	43.8	43.8	55.9	12:29:36	57.2	55.9	55.9	54.8	54.8
46.3	11:51:40		46.3	46.3	43.8	12:14:48	43.8	43.8	55.3	12:29:39	57.2	55.3	55.3	53.7	53.7
46.4	11:51:41		46.4	46.4	43.5	12:14:49	43.5	43.5	54.7	12:29:42	57.2	54.7	54.7	54.7	54.7
46.5	11:51:42		46.5	46.5	43.5	12:14:50	43.5	43.5	54.8	12:29:45	57.2	54.8	54.8	62.1	62.1
46.7	11:51:43		46.7	46.7	44.1	12:14:51	44.1	44.1	56	12:29:48	57.2	56	56	60.7	60.7
47.0	11:51:44		47.0	47.0	44.5	12:14:52	44.5	44.5	55.6	12:29:51	57.2	55.6	55.6	57.8	57.8
46.8	11:51:45		46.8	46.8	44.6	12:14:53	44.6	44.6	56.9	12:29:54	57.2	56.9	56.9	59.3	59.3
46.6	11:51:46		46.6	46.6	44.5	12:14:54	44.5	44.5	57.8	12:29:57	57.2	57.8	57.8	54.8	54.8
46.9	11:51:47		46.9	46.9	44.5	12:14:55	44.5	44.5	56.6	12:30:00	57.2	56.6	56.6	53.8	53.8
46.8	11:51:48		46.8	46.8	44.5	12:14:56	44.5	44.5	57.3	12:30:03	57.2	57.3	57.3	52.9	52.9
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46.9	11:51:53		46.9	46.9	43.8	12:15:01	43.8	43.8	55.8	12:30:18	57.2	55.8	55.8	50.9	50.9
46.7	11:51:54		46.7	46.7	43.4	12:15:02	43.4	43.4	55.1	12:30:21	57.2	55.1	55.1	52.7	52.7
46.4	11:51:55		46.4	46.4	43.6	12:15:03	43.6	43.6	54.5	12:30:24	57.2	54.5	54.5	53.7	53.7
46.0	11:51:56		46.0	46.0	43.7	12:15:04	43.7	43.7	56.3	12:30:27	57.2	56.3	56.3	52.7	52.7
46.4	11:51:57		46.4	46.4	43.9	12:15:05	43.9	43.9	56.4	12:30:30	57.2	56.4	56.4	52.2	52.2
47.1	11:51:58		47.1	47.1	43.9	12:15:06	43.9	43.9	56.8	12:30:33	57.2	56.8	56.8	51.4	51.4
46.5	11:51:59		46.5	46.5	43.7	12:15:07	43.7	43.7	55.9	12:30:36	57.2	55.9	55.9	54.1	54.1
46.3	11:52:00		46.3	46.3	43.4	12:15:08	43.4	43.4	55.3	12:30:39	57.2	55.3	55.3	52.7	52.7
46.0	11:52:01		46.0	46.0	43.3	12:15:09	43.3	43.3	55.6	12:30:42	57.2	55.6	55.6	53.5	53.5
46.3	11:52:02		46.3	46.3	43.6	12:15:10	43.6	43.6	56.6	12:30:45	57.2	56.6	56.6	52.9	52.9
46.9	11:52:03		46.9	46.9	44.4	12:15:11	44.4	44.4	56.1	12:30:48	57.2	56.1	56.1	52.2	52.2
47.0	11:52:04		47.0	47.0	44.2	12:15:12	44.2	44.2	56.3	12:30:51	57.2	56.3	56.3	51.8	51.8
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47.4	11:52:06		47.4	47.4	43.0	12:15:14	43.0	43.0	55.8	12:30:57	57.2	55.8	55.8	50.3	50.3
47.9	11:52:07		47.9	47.9	42.8	12:15:15	42.8	42.8	55.9	12:31:00	57.2	55.9	55.9	50.5	50.5
48.1	11:52:08		48.1	48.1	43.1	12:15:16	43.1	43.1	55.7	12:31:03	57.2	55.7	55.7	53.2	53.2
47.9	11:52:09		47.9	47.9	42.8	12:15:17	42.8	42.8	57.1	12:31:06	57.2	57.1	57.1	50.8	50.8
47.4	11:52:10		47.4	47.4	42.9	12:15:18	42.9	42.9	57.7	12:31:09	57.2	57.7	57.7	51.9	51.9
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56.7	11:52:25		56.7	56.7	43.5	12:15:33	43.5	43.5	55.2	12:31:54	57.2	55.2	55.2	53.5	53.5
59.4	11:52:26		59.4	59.4	43.4	12:15:34	43.4	43.4	55.8	12:31:57	57.2	55.8	55.8	51.4	51.4
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59.9	11:52:28		59.9	59.9	44.0	12:15:36	44.0	44.0	57.8	12:32:03	57.2	57.8	57.8	52.5	52.5
60.2	11:52:29		60.2	60.2	44.2	12:15:37	44.2	44.2	58	12:32:06	57.2	58	58	51.9	51.9
59.0	11:52:30		59.0	59.0	44.3	12:15:38	44.3	44.3	57.7	12:32:09	57.2	57.7	57.7	52.7	52.7
57.5	11:52:31		57.5	57.5	44.2	12:15:39	44.2	44.2	57.2	12:32:12	57.2	57.2	57.2	52.2	52.2
57.8	11:52:32		57.8	57.8	43.9	12:15:40	43.9	43.9	55.7	12:32:15	57.2	55.7	55.7	52.1	52.1
59.7	11:52:33		59.7	59.7	43.9	12:15:41	43.9	43.9	55.7	12:32:18	57.2	55.7	55.7	53.2	53.2
59.7	11:52:34		59.7	59.7	43.8	12:15:42	43.8	43.8	55.9	12:32:21	57.2	55.9	55.9	51.1	51.1
58.8	11:52:35		58.8	58.8	44.0	12:15:43	44.0	44.0	55.3	12:32:24	57.2	55.3	55.3	51.5	51.5
58.2	11:52:36		58.2	58.2	44.1	12:15:44	44.1	44.1	54.8	12:32:27	57.1	54.8	54.8	51.6	51.6
56.9	11:52:37		56.9	56.9	44.0	12:15:45	44.0	44.0	54.4	12:32:30	57.1	54.4	54.4	54.8	54.8
56.7	11:52:38		56.7	56.7	44.8	12:15:46	44.8	44.8	54.7	12:32:33	57.1	54.7	54.7	51.9	51.9
54.7	11:52:39		54.7	54.7	45.4	12:15:47	45.4	45.4	54.4	12:32:36	57.1	54.4	54.4	51.9	51.9
53.7	11:52:40		53.7	53.7	44.8	12:15:48	44.8	44.8	54.6	12:32:39	57.1	54.6	54.6	52.6	52.6
53.8	11:52:41		53.8	53.8	44.5	12:15:49	44.5	44.5	54.5	12:32:42	57.1	54.5	54.5	52.4	52.4
52.9	11:52:42		52.9	52.9	44.5	12:15:50	44.5	44.5	55.9	12:32:45	57.1	55.9	55.9	51.4	51.4
52.9	11:52:43		52.9	52.9	44.1	12:15:51	44.1	44.1	55.9	12:32:48	57.1	55.9	55.9	53.2	53.2
52.1	11:52:44		52.1	52.1	44.4	12:15:52	44.4	44.4	55.9	12:32:51	57.1	55.9	55.9	56.1	56.1
51.4	11:52:45		51.4	51.4	44.2	12:15:53	44.2	44.2	56.7						

1 - On Wall on North Property Line Near NE Corner of Project			Site 2 - West of Project on Tree in front of H9 Mobile Home			Site 3 - On Fence on East Property Line next to Fire Hydrant			Site 4 - On Project Site Fence at Terminus of Banbury Dr								
SPL	Time	Leq (1 hour Avg.)	Ldn CNEL	SPL	Time	Leq (1 hour Avg.)	Ldn CNEL	SPL	Time	Leq (1 hour Avg.)	Ldn CNEL	SPL	Time	Leq (1 hour Avg.)	Ldn CNEL		
48.5	11:54:10		48.5	48.5	41.0	12:17:18	41.0	41.0	56.9	12:37:09	56.8	56.9	56.9	52.4	12:44:09	52.4	52.4
47.7	11:54:11		47.7	47.7	41.0	12:17:19	41.0	41.2	56.4	12:37:12	56.8	56.4	56.4	52.4	12:44:12	52.4	52.4
47.2	11:54:12		47.2	47.2	41.0	12:17:20	41.0	41.2	56.3	12:37:15	56.8	56.3	56.3	52.3	12:44:15	52.3	52.3
46.5	11:54:13		46.5	46.5	42.0	12:17:21	42.0	42.0	56.3	12:37:18	56.8	56.3	56.3	52.3	12:44:18	52.3	52.3
46.2	11:54:14		46.2	46.2	41.8	12:17:22	41.8	41.8	56.7	12:37:21	56.8	56.7	56.7	52.3	12:44:21	52.3	52.3
46.3	11:54:15		46.3	46.3	41.5	12:17:23	41.5	41.5	56.2	12:37:24	56.8	56.2	56.2	52.4	12:44:24	52.4	52.4
46.3	11:54:16		46.3	46.3	41.5	12:17:24	41.5	41.5	57	12:37:27	56.8	57	57	52.4	12:44:27	52.4	52.4
46.0	11:54:17		46.0	46.0	41.5	12:17:25	41.5	41.5	56.7	12:37:30	56.8	56.7	56.7	51.9	12:44:30	51.9	51.9
45.7	11:54:18		45.7	45.7	41.3	12:17:26	41.3	41.3	57.3	12:37:33	56.8	57.3	57.3	52.5	12:44:33	52.5	52.5
46.0	11:54:19		46.0	46.0	41.0	12:17:27	41.0	41.0	56.8	12:37:36	56.9	56.8	56.8	52	12:44:36	52	52
46.1	11:54:20		46.1	46.1	40.7	12:17:28	40.7	40.7	56.8	12:37:39	56.9	56.8	56.8	52.5	12:44:39	52.5	52.5
48.9	11:54:21		48.9	48.9	40.5	12:17:29	40.5	40.5	56	12:37:42	56.9	56	56	49.9	12:44:42	49.9	49.9
50.8	11:54:22		50.8	50.8	40.8	12:17:30	40.8	40.8	55.3	12:37:45	56.9	55.3	55.3	50.6	12:44:45	50.6	50.6
48.4	11:54:23		48.4	48.4	40.9	12:17:31	40.9	40.9	55.9	12:37:48	56.9	55.9	55.9	54.2	12:44:48	54.2	54.2
46.5	11:54:24		46.5	46.5	40.9	12:17:32	40.9	40.9	56.2	12:37:51	56.9	56.2	56.2	53.9	12:44:51	53.9	53.9
45.4	11:54:25		45.4	45.4	40.8	12:17:33	40.8	40.8	55.5	12:37:54	56.9	55.5	55.5	52.5	12:44:54	52.5	52.5
44.8	11:54:26		44.8	44.8	40.6	12:17:34	40.6	40.6	56.4	12:37:57	56.9	56.4	56.4	53.5	12:44:57	53.5	53.5
44.9	11:54:27		44.9	44.9	40.6	12:17:35	40.6	40.6	54.4	12:38:00	56.9	54.4	54.4	52.1	12:45:00	52.1	52.1
45.1	11:54:28		45.1	45.1	40.7	12:17:36	40.7	40.7	54.8	12:38:03	56.9	54.8	54.8	52.1	12:45:03	52.1	52.1
45.3	11:54:29		45.3	45.3	40.7	12:17:37	40.7	40.7	54.2	12:38:06	56.9	54.2	54.2	51.3	12:45:06	51.3	51.3
45.5	11:54:30		45.5	45.5	40.9	12:17:38	40.9	40.9	54.7	12:38:09	56.9	54.7	54.7	50	12:45:09	50	50
45.6	11:54:31		45.6	45.6	40.8	12:17:39	40.8	40.8	53.4	12:38:12	56.9	53.4	53.4	49.6	12:45:12	49.6	49.6
45.6	11:54:32		45.6	45.6	40.7	12:17:40	40.7	40.7	53	12:38:15	56.9	53	53	51.8	12:45:15	51.8	51.8
45.3	11:54:33		45.3	45.3	40.9	12:17:41	40.9	40.9	54	12:38:18	56.9	54	54	52.4	12:45:18	52.4	52.4
45.3	11:54:34		45.3	45.3	40.9	12:17:42	40.9	40.9	54.3	12:38:21	56.9	54.3	54.3	52.5	12:45:21	52.5	52.5
45.3	11:54:35		45.3	45.3	40.9	12:17:43	40.9	40.9	53.3	12:38:24	56.9	53.3	53.3	52.5	12:45:24	52.5	52.5
45.3	11:54:36		45.3	45.3	40.9	12:17:44	40.9	40.9	53.3	12:38:27	56.9	53.3	53.3	51.7	12:45:27	51.7	51.7
45.3	11:54:37		45.3	45.3	40.9	12:17:45	40.9	40.9	53.1	12:38:30	56.9	53.1	53.1	51.5	12:45:30	51.5	51.5
45.7	11:54:38		45.7	45.7	41.0	12:17:46	41.0	41.0	53.1	12:38:33	56.9	53.1	53.1	52	12:45:33	52	52
45.9	11:54:39		45.9	45.9	41.0	12:17:47	41.0	41.0	54.5	12:38:36	56.9	54.5	54.5	52.6	12:45:36	52.6	52.6
45.8	11:54:40		45.8	45.8	41.1	12:17:48	41.1	41.1	55.4	12:38:39	56.9	55.4	55.4	52.5	12:45:39	52.5	52.5
45.5	11:54:41		45.5	45.5	41.0	12:17:49	41.0	41.0	53.1	12:38:42	56.9	53.1	53.1	52.5	12:45:42	52.5	52.5
45.7	11:54:42		45.7	45.7	40.8	12:17:50	40.8	40.8	54.3	12:38:45	56.9	54.3	54.3	52.5	12:45:45	52.5	52.5
45.8	11:54:43		45.8	45.8	41.1	12:17:51	41.1	41.1	57.5	12:38:48	56.9	57.5	57.5	57.5	12:45:48	57.5	57.5
46.2	11:54:44		46.2	46.2	41.1	12:17:52	41.1	41.1	55.2	12:38:51	56.8	55.2	55.2	53	12:45:51	53	53
46.2	11:54:45		46.2	46.2	40.9	12:17:53	40.9	40.9	55.5	12:38:54	56.8	55.5	55.5	52.3	12:45:54	52.3	52.3
46.1	11:54:46		46.1	46.1	41.0	12:17:54	41.0	41.0	56.2	12:38:57	56.8	56.2	56.2	52.5	12:45:57	52.5	52.5
46.3	11:54:47		46.3	46.3	41.0	12:17:55	41.0	41.0	56.4	12:39:00	56.8	56.4	56.4	51.7	12:46:00	51.7	51.7
46.5	11:54:48		46.5	46.5	40.8	12:17:56	40.8	40.8	55.6	12:39:03	56.8	55.6	55.6	51.8	12:46:03	51.8	51.8
46.1	11:54:49		46.1	46.1	40.8	12:17:57	40.8	40.8	56.2	12:39:06	56.8	56.2	56.2	52.2	12:46:06	52.2	52.2
45.5	11:54:50		45.5	45.5	42.5	12:17:58	42.5	42.5	55.4	12:39:09	56.9	55.4	55.4	52.5	12:46:09	52.5	52.5
45.6	11:54:51		45.6	45.6	41.0	12:17:59	41.0	41.0	55	12:39:12	56.8	55	55	51.1	12:46:12	51.1	51.1
45.8	11:54:52		45.8	45.8	41.0	12:18:00	41.0	41.0	56.1	12:39:15	56.8	56.1	56.1	51.5	12:46:15	51.5	51.5
46.2	11:54:53		46.2	46.2	41.5	12:18:01	41.5	41.5	56.8	12:39:18	56.8	56.8	56.8	54.7	12:46:18	54.7	54.7
46.1	11:54:54		46.1	46.1	41.2	12:18:02	41.2	41.2	57.4	12:39:21	56.8	57.4	57.4	52.7	12:46:21	52.7	52.7
45.6	11:54:55		45.6	45.6	40.9	12:18:03	40.9	40.9	57.9	12:39:24	56.8	57.9	57.9	52.9	12:46:24	52.9	52.9
45.6	11:54:56		45.6	45.6	40.8	12:18:04	40.8	40.8	60.1	12:39:27	56.8	60.1	60.1	52.4	12:46:27	52.4	52.4
45.5	11:54:57		45.5	45.5	41.0	12:18:05	41.0	41.0	57.8	12:39:30	56.8	57.8	57.8	51.4	12:46:30	51.4	51.4
45.4	11:54:58		45.4	45.4	42.5	12:18:06	42.5	42.5	55.5	12:39:33	56.8	55.5	55.5	52.3	12:46:33	52.3	52.3
45.5	11:54:59		45.5	45.5	42.3	12:18:07	42.3	42.3	56.3	12:39:36	56.8	56.3	56.3	50.9	12:46:36	50.9	50.9
45.9	11:55:00		45.9	45.9	41.8	12:18:08	41.8	41.8	54.4	12:39:39	56.8	54.4	54.4	50.1	12:46:39	50.1	50.1
46.6	11:55:01		46.6	46.6	41.2	12:18:09	41.2	41.2	54.4	12:39:42	56.8	54.4	54.4	50.4	12:46:42	50.4	50.4
46.3	11:55:02		46.3	46.3	40.7	12:18:10	40.7	40.7	55.7	12:39:45	56.8	55.7	55.7	50.5	12:46:45	50.5	50.5
46.0	11:55:03		46.0	46.0	40.9	12:18:11	40.9	40.9	56.4	12:39:48	56.8	56.4	56.4	51.6	12:46:48	51.6	51.6
45.9	11:55:04		45.9	45.9	41.0	12:18:12	41.0	41.0	56	12:39:51	56.8	56	56	52.1	12:46:51	52.1	52.1
45.7	11:55:05		45.7	45.7	40.8	12:18:13	40.8	40.8	54.7	12:39:54	56.8	54.7	54.7	52.6	12:46:54	52.6	52.6
45.5	11:55:06		45.5	45.5	41.2	12:18:14	41.2	41.2	55.9	12:39:57	56.8	55.9	55.9	52.5	12:46:57	52.5	52.5
45.3	11:55:07		45.3	45.3	40.9	12:18:15	40.9	40.9	54.4	12:40:00	56.8	54.4	54.4	53.3	12:47:00	53.3	53.3
45.5	11:55:08		45.5	45.5	41.6	12:18:16	41.6	41.6	53.7	12:40:03	56.8	53.7	53.7	52.8	12:47:03	52.8	52.8
45.8	11:55:09		45.8	45.8	41.3	12:18:17	41.3	41.3	53.7	12:40:06	56.8	53.7	53.7	52.7	12:47:06	52.7	52.7
45.6	11:55:10		45.6	45.6	41.3	12:18:18	41.3	41.3	57	12:40:09	56.8	57	57	54.7	12:47:09	54.7	54.7
45.8	11:55:11		45.8	45.8	41.2	12:18:19	41.2	41.2	64.9	12:40:12	56.8	64.9	64.9	52.9	12:47:12	52.9	52.9
45.6	11:55:12		45.6	45.6	41.9	12:18:20	41.9	41.9	70.1	12:40:15	56.8	70.1	70.1	55.4	12:47:15	55.4	55.4
45.5	11:55:13		45.5	45.5	41.8	12:18:21	41.8	41.8	63.5	12:40:18	56.8	63.5	63.5	60.6	12:47:18	60.6	60.6
46.0	11:55:14		46.0	46.0	41.6	12:18:22	41.6	41.6	59.2	12:40:21	56.8	59.2	59.2	59.4	12:47:21	59.4	59.4
46.7	11:55:15		46.7	46.7	41.5	12:18:23	41.5	41.5	60.9	12:40:24	56.9	60.9	60.9	57.1	12:47:24	57.1	57.1
46.4	11:55:16		46.4	46.4	41.0	12:18:24	41.0	41.0	60.8	12:40:27	56.8	60.8	60.8	56	12:47:27	56	56
46.2	11:55:17		46.2	46.2	41.7	12:18:25	41.7	41.7	58.8	12:40:30	56.8	58.8	58.8	60.9	12:47:30	60.9	60.9
46.3	11:55:18		46.3	46.3	41.4	12:18:26											

Site 2 - West of Project on Tree in front of H9 Mobile Home				Site 3 - On Fence on East Property Line next to Fire Hydrant				Site 4 - On Project Site Fence at Terminus of Banbury Dr				
SPL	Time	Leq (1 hour Avg.)	Ldn CNEL	SPL	Time	Leq (1 hour Avg.)	Ldn CNEL	SPL	Time	Leq (1 hour Avg.)	Ldn CNEL	
52.6	11:56:52		52.6	52.6	12:52:15		56.7	56.6	66.6	54.7	12:52:15	53.6
54.1	11:56:53		54.1	54.1	12:45:18		56.7	58.4	58.4	53.8	12:52:18	53.6
54.2	11:56:54		54.2	54.2	12:45:21		56.7	58.4	58.4	53.8	12:52:21	53.6
53.6	11:56:55		53.6	53.6	12:45:24		56.6	55.5	55.5	54.1	12:52:24	54.1
53.4	11:56:56		53.4	53.4	12:45:27		56.6	55.4	55.4	52.9	12:52:27	52.9
52.9	11:56:57		52.9	52.9	12:45:30		56.6	54.7	54.7	53.3	12:52:30	53.3
51.8	11:56:58		51.8	51.8	12:45:33		56.7	55.1	55.1	53.6	12:52:33	53.6
51.8	11:56:59		51.8	51.8	12:45:36		56.6	55.1	55.1	54.2	12:52:36	54.2
51.3	11:57:00		51.3	51.3	12:45:39		56.6	55.4	55.4	53.8	12:52:39	53.8
50.6	11:57:01		50.6	50.6	12:45:42		56.6	55.8	55.8	53.3	12:52:42	53.3
50.5	11:57:02		50.5	50.5	12:45:45		56.6	55.8	55.8	53.6	12:52:45	53.6
51.3	11:57:03		51.3	51.3	12:45:48		56.7	56.1	56.1	54.4	12:52:48	54.4
51.7	11:57:04		51.7	51.7	12:45:51		56.8	55.8	55.8	54.1	12:52:51	54.1
53.2	11:57:05		53.2	53.2	12:45:54		56.6	57.3	57.3	58.3	12:52:54	58.3
55.0	11:57:06		55.0	55.0	12:45:57		56.6	55.7	55.7	56.7	12:52:57	56.7
54.7	11:57:07		54.7	54.7	12:46:00		56.6	57.2	57.2	57.4	12:53:00	57.4
54.8	11:57:08		54.8	54.8	12:46:03		56.6	57.7	57.7	56.3	12:53:03	56.3
56.0	11:57:09		56.0	56.0	12:46:06		56.6	56.5	56.5	56.6	12:53:06	56.6
56.4	11:57:10		56.4	56.4	12:46:09		56.6	56.5	56.7	56.2	12:53:09	56.2
57.7	11:57:11		57.7	57.7	12:46:12		56.9	55.9	55.9	56.7	12:53:12	56.7
57.4	11:57:12		57.4	57.4	12:46:15		56.6	55.7	55.7	55.1	12:53:15	55.1
57.4	11:57:13		57.4	57.4	12:46:18		56.6	54.5	54.5	57.2	12:53:18	57.2
59.5	11:57:14		59.5	59.5	12:46:21		56.6	54.9	54.9	55.8	12:53:21	55.8
60.1	11:57:15		60.1	60.1	12:46:24		56.6	56.0	56.0	56.7	12:53:24	56.7
62.6	11:57:16		62.6	62.6	12:46:27		56.6	54.6	54.6	54.8	12:53:27	54.8
64.8	11:57:17		64.8	64.8	12:46:30		56.6	56.1	56.1	56.2	12:53:30	56.2
65.9	11:57:18		65.9	65.9	12:46:33		56.6	55.5	55.5	57.4	12:53:33	57.4
65.3	11:57:19		65.3	65.3	12:46:36		56.6	56.1	56.1	55.2	12:53:36	55.2
63.5	11:57:20		63.5	63.5	12:46:39		56.6	57.7	57.7	51.9	12:53:39	51.9
63.7	11:57:21		63.7	63.7	12:46:42		56.6	64.1	64.1	51.4	12:53:42	51.4
61.6	11:57:22		61.6	61.6	12:46:45		56.6	62.4	62.4	50.8	12:53:45	50.8
59.1	11:57:23		59.1	59.1	12:46:48		56.6	59.2	59.2	51.1	12:53:48	51.1
56.9	11:57:24		56.9	56.9	12:46:51		56.6	56.4	56.4	51.9	12:53:51	51.9
55.5	11:57:25		55.5	55.5	12:46:54		56.6	56.7	56.7	52.1	12:53:54	52.1
55.2	11:57:26		55.2	55.2	12:46:57		56.6	55.6	55.6	53.1	12:53:57	53.1
55.3	11:57:27		55.3	55.3	12:47:00		56.6	56.4	56.4	54.4	12:54:00	54.4
56.3	11:57:28		56.3	56.3	12:47:03		56.6	56.2	56.2	54.2	12:54:03	54.2
57.6	11:57:29		57.6	57.6	12:47:06		56.8	56.3	56.3	52.1	12:54:06	52.1
58.7	11:57:30		58.7	58.7	12:47:09		56.6	55.4	55.4	53.5	12:54:09	53.5
57.4	11:57:31		57.4	57.4	12:47:12		56.6	54.5	54.5	51.5	12:54:12	51.5
56.5	11:57:32		56.5	56.5	12:47:15		56.6	56.8	56.8	50.6	12:54:15	50.6
54.5	11:57:33		54.5	54.5	12:47:18		56.6	56.1	56.1	52.2	12:54:18	52.2
54.7	11:57:34		54.7	54.7	12:47:21		56.6	56.4	56.4	53.5	12:54:21	53.5
56.1	11:57:35		56.1	56.1	12:47:24		56.6	56.4	56.4	55.1	12:54:24	55.1
54.9	11:57:36		54.9	54.9	12:47:27		56.6	57.2	57.2	51.9	12:54:27	51.9
53.7	11:57:37		53.7	53.7	12:47:30		56.6	56.1	56.1	53.4	12:54:30	53.4
53.1	11:57:38		53.1	53.1	12:47:33		56.6	56.8	56.8	55.4	12:54:33	55.4
52.9	11:57:39		52.9	52.9	12:47:36		56.6	56.5	56.5	53.9	12:54:36	53.9
51.9	11:57:40		51.9	51.9	12:47:39		56.6	60.1	60.1	55.4	12:54:39	55.4
51.5	11:57:41		51.5	51.5	12:47:42		56.6	58.9	58.9	53.7	12:54:42	53.7
51.3	11:57:42		51.3	51.3	12:47:45		56.6	68.4	68.4	56.9	12:54:45	56.9
51.8	11:57:43		51.8	51.8	12:47:48		56.6	59.5	59.5	56.5	12:54:48	56.5
51.7	11:57:44		51.7	51.7	12:47:51		56.6	63.5	63.5	55.5	12:54:51	55.5
51.4	11:57:45		51.4	51.4	12:47:54		56.6	62.7	62.7	57.3	12:54:54	57.3
51.5	11:57:46		51.5	51.5	12:47:57		56.6	61.1	61.1	56.3	12:54:57	56.3
50.9	11:57:47		50.9	50.9	12:48:00		56.6	62.2	62.2	56.6	12:55:00	56.6
50.9	11:57:48		50.9	50.9	12:48:03		56.6	60.1	60.1	56.7	12:55:03	56.7
50.3	11:57:49		50.3	50.3	12:48:06		56.6	61.8	61.8	56.6	12:55:06	56.6
51.2	11:57:50		51.2	51.2	12:48:09		56.6	60.7	60.7	54.2	12:55:09	54.2
53.9	11:57:51		53.9	53.9	12:48:12		56.6	63.6	63.6	53.9	12:55:12	53.9
53.2	11:57:52		53.2	53.2	12:48:15		56.6	59.3	59.3	54.8	12:55:15	54.8
52.7	11:57:53		52.7	52.7	12:48:18		56.6	57.4	57.4	58.4	12:55:18	58.4
52.2	11:57:54		52.2	52.2	12:48:21		56.8	58.2	58.2	54.4	12:55:21	54.4
52.0	11:57:55		52.0	52.0	12:48:24		56.6	56.2	56.2	53.8	12:55:24	53.8
54.0	11:57:56		54.0	54.0	12:48:27		56.6	57.4	57.4	56.6	12:55:27	56.6
54.4	11:57:57		54.4	54.4	12:48:30		56.6	56.2	56.2	56.3	12:55:30	56.3
53.6	11:57:58		53.6	53.6	12:48:33		56.6	57.5	57.5	56.1	12:55:33	56.1
52.2	11:57:59		52.2	52.2	12:48:36		56.6	57.5	57.5	54.3	12:55:36	54.3
52.7	11:58:00		52.7	52.7	12:48:39		56.6	57.5	57.5	53.7	12:55:39	53.7
52.9	11:58:01		52.9	52.9	12:48:42		56.6	57.6	57.6	56.3	12:55:42	56.3
52.8	11:58:02		52.8	52.8	12:48:45		56.6	57.4	57.4	56.7	12:55:45	56.7
51.8	11:58:03		51.8	51.8	12:48:48		56.5	58.6	58.6	53.9	12:55:48	53.9
51.6	11:58:04		51.6	51.6	12:48:51		56.5	58.7	58.7	56.6	12:55:51	56.6
51.3	11:58:05		51.3	51.3	12:48:54		56.6	58.2	58.2	53.4	12:55:54	53.4
53.2	11:58:06		53.2	53.2	12:48:57		56.6	57.5	57.5	53.1	12:55:57	53.1
52.4	11:58:07		52.4	52.4	12:49:00		56.6	57.5	57.5	55.9	12:56:00	55.9
51.2	11:58:08		51.2	51.2	12:49:03		56.6	57.7	57.7	51.6	12:56:03	51.6
50.7	11:58:09		50.7	50.7	12:49:06		56.6	58.5	58.5	53.2	12:56:06	53.2
50.6	11:58:10		50.6	50.6	12:49:09		56.6	57.8	57.8	51.9	12:56:09	51.9
50.5	11:58:11		50.5	50.5	12:49:12		56.6	59.6	59.6	53.8	12:56:12	53.8
49.9	11:58:12		49.9	49.9	12:49:15		56.6	59.2	59.2	52.7	12:56:15	52.7
49.1	11:58:13		49.1	49.1	12:49:18		56.6	62.2	62.2	56.6	12:56:18	56.6
49.6	11:58:14		49.6	49.6	12:49:21		56.6	59.2	59.2	51.8	12:56:21	51.8
50.3	11:58:15		50.3	50.3	12:49:24		56.6	59.2	59.2	52.4	12:56:24	52.4
50.0	11:58:16		50.0	50.0	12:49:27		56.6	56.8	56.8	52.1	12:56:27	52.1
49.2	11:58:17		49.2	49.2	12:49:30		56.6	56.3	56.3	52.8	12:56:30	52.8
48.8	11:58:18		48.8	48.8	12:49:33		56.6	58.1	58.1	51.4	12:56:33	51.4
48.4	11:58:19		48.4	48.4	12:49:36		56.6	58.5	58.5	51.2	12:56:36	51.2
48.6	11:58:20		48.6	48.6	12:49:39		56.6	58.2	58.2	52.2	12:56:39	52.2
48.7	11:58:21		48.7	48.7	12:49:42		56.6	57.9	57.9	52	12:56:42	52
48.5	11:58:22		48.5	48.5	12:49:45		56.6	58.1	58.1	52.9	12:56:45	52.9
48.5	11:58:23		48.5	48.5	12:49:48		56.6	58.2	58.2	52.6	12:56:48	52.6
48.5	11:58:24		48.5	48.5	12:49:51		56.6	58.3	58.3	52.8	12:56:51	52.8
48.7	11:58:25		48.7	48.7	12:49:54		56.6	58.7	58.7	54.3	12:56:54	54.3
48.1	11:58:26		48.1	48.1	12:49:57		56.6	59.2	59.2	53.2	12:56:57	53.2
47.7	11:58:27		47.7	47.7	12:50:00		56.6	58.6	58.6	53.9	12:57:00	53.9
47.4	11:58:28		47.4	47.4	12:50:03		56.6	65.4	65.4	53.5	12:57:03	53.5
47.3	11:58:29		47.3	47.3	12:50:06		56.6	61.4	61.4	56.3	12:57:06	56.3</

1 - On Wall on North Property Line Near NE Corner of Project

Table with columns: SPL, Time, Leq (1 hour Avg.), Ldn CNEL. Contains 460 rows of noise data for the North Property Line.

Site 2 - West of Project on Tree in front of H9 Mobile Home

Table with columns: SPL, Time, Leq (1 hour Avg.), Ldn CNEL. Contains 460 rows of noise data for Site 2.

Site 3 - On Fence on East Property Line next to Fire Hydrant

Table with columns: SPL, Time, Leq (1 hour Avg.), Ldn CNEL. Contains 460 rows of noise data for Site 3.

Site 4 - On Project Site Fence at Terminus of Banbury Dr

Table with columns: SPL, Time, Leq (1 hour Avg.), Ldn CNEL. Contains 460 rows of noise data for Site 4.

Site 2 - West of Project on Tree in front of H9 Mobile Home				Site 3 - On Fence on East Property Line next to Fire Hydrant				Site 4 - On Project Site Fence at Terminus of Banbury Dr							
SPL	Time	Leq (1 hour Avg.)	Ldn CNEL	SPL	Time	Leq (1 hour Avg.)	Ldn CNEL	SPL	Time	Leq (1 hour Avg.)	Ldn CNEL	SPL	Time	Leq (1 hour Avg.)	Ldn CNEL
46.1	12:02:18	46.1	46.1	47.5	47.5	47.5	47.5	56.6	13:01:27	56.4	56.6	56.6	56.6	56.6	56.6
46.0	12:02:17	46.0	46.0	48.3	48.3	48.3	48.3	56.6	13:01:30	56.4	56.6	56.6	56.6	56.6	56.6
46.2	12:02:16	46.2	46.2	47.2	47.2	47.2	47.2	56.6	13:01:33	56.4	56.6	56.6	56.6	56.6	56.6
46.1	12:02:19	46.1	46.1	46.2	46.2	46.2	46.2	57.5	13:01:36	56.4	57.5	57.5	57.5	57.5	57.5
46.5	12:02:20	46.5	46.5	46.5	46.5	46.5	46.5	62.9	13:01:39	56.4	62.9	62.9	62.9	62.9	62.9
46.4	12:02:21	46.4	46.4	47.0	47.0	47.0	47.0	62.7	13:01:42	56.4	62.7	62.7	62.7	62.7	62.7
46.3	12:02:22	46.3	46.3	46.2	46.2	46.2	46.2	58.2	13:01:45	56.4	58.2	58.2	58.2	58.2	58.2
46.3	12:02:23	46.3	46.3	49.4	49.4	49.4	49.4	57.2	13:01:48	56.4	57.2	57.2	57.2	57.2	57.2
46.4	12:02:24	46.4	46.4	50.6	50.6	50.6	50.6	55	13:01:51	56.4	55	55	55	55	55
46.3	12:02:25	46.3	46.3	52.8	52.8	52.8	52.8	50.1	13:01:54	56.4	50.1	50.1	50.1	50.1	50.1
46.2	12:02:26	46.2	46.2	53.4	53.4	53.4	53.4	49.1	13:01:57	56.4	49.1	49.1	49.1	49.1	49.1
46.3	12:02:27	46.3	46.3	54.2	54.2	54.2	54.2	49	13:02:00	56.4	49	49	49	49	49
46.2	12:02:28	46.2	46.2	54.0	54.0	54.0	54.0	48.6	13:02:03	56.4	48.6	48.6	48.6	48.6	48.6
46.1	12:02:29	46.1	46.1	54.5	54.5	54.5	54.5	48.8	13:02:06	56.4	48.8	48.8	48.8	48.8	48.8
46.2	12:02:30	46.2	46.2	53.1	53.1	53.1	53.1	50	13:02:09	56.4	50	50	50	50	50
46.1	12:02:31	46.1	46.1	53.2	53.2	53.2	53.2	50.2	13:02:12	56.4	50.2	50.2	50.2	50.2	50.2
45.9	12:02:32	45.9	45.9	54.4	54.4	54.4	54.4	49.5	13:02:15	56.4	49.5	49.5	49.5	49.5	49.5
45.8	12:02:33	45.8	45.8	53.3	53.3	53.3	53.3	49	13:02:18	56.4	49	49	49	49	49
46.1	12:02:34	46.1	46.1	53.3	53.3	53.3	53.3	49.1	13:02:21	56.4	49.1	49.1	49.1	49.1	49.1
46.2	12:02:35	46.2	46.2	52.9	52.9	52.9	52.9	49.3	13:02:24	56.4	49.3	49.3	49.3	49.3	49.3
46.3	12:02:36	46.3	46.3	51.3	51.3	51.3	51.3	59.4	13:02:27	56.4	59.4	59.4	59.4	59.4	59.4
46.2	12:02:37	46.2	46.2	49.8	49.8	49.8	49.8	51.5	13:02:30	56.4	51.5	51.5	51.5	51.5	51.5
46.2	12:02:38	46.2	46.2	48.5	48.5	48.5	48.5	50	13:02:33	56.4	50	50	50	50	50
46.0	12:02:39	46.0	46.0	48.4	48.4	48.4	48.4	48.7	13:02:36	56.4	48.7	48.7	48.7	48.7	48.7
46.2	12:02:40	46.2	46.2	48.0	48.0	48.0	48.0	49.8	13:02:39	56.4	49.8	49.8	49.8	49.8	49.8
46.1	12:02:41	46.1	46.1	48.1	48.1	48.1	48.1	49.8	13:02:42	56.4	49.8	49.8	49.8	49.8	49.8
46.1	12:02:42	46.1	46.1	48.0	48.0	48.0	48.0	49.5	13:02:45	56.4	49.5	49.5	49.5	49.5	49.5
46.2	12:02:43	46.2	46.2	47.3	47.3	47.3	47.3	49.3	13:02:48	56.4	49.3	49.3	49.3	49.3	49.3
45.8	12:02:44	45.8	45.8	46.2	46.2	46.2	46.2	50	13:02:51	56.4	50	50	50	50	50
45.7	12:02:45	45.7	45.7	46.1	46.1	46.1	46.1	49.9	13:02:54	56.4	49.9	49.9	49.9	49.9	49.9
45.6	12:02:46	45.6	45.6	46.4	46.4	46.4	46.4	49.9	13:02:57	56.4	49.9	49.9	49.9	49.9	49.9
45.4	12:02:47	45.4	45.4	45.8	45.8	45.8	45.8	49.8	13:03:00	56.4	49.8	49.8	49.8	49.8	49.8
45.4	12:02:48	45.4	45.4	45.5	45.5	45.5	45.5	48.5	13:03:03	56.4	48.5	48.5	48.5	48.5	48.5
45.5	12:02:49	45.5	45.5	45.0	45.0	45.0	45.0	51.4	13:03:06	56.4	51.4	51.4	51.4	51.4	51.4
45.4	12:02:50	45.4	45.4	44.6	44.6	44.6	44.6	51	13:03:09	56.3	51	51	51	51	51
45.2	12:02:51	45.2	45.2	44.1	44.1	44.1	44.1	53.9	13:03:12	56.3	53.9	53.9	53.9	53.9	53.9
45.2	12:02:52	45.2	45.2	45.4	45.4	45.4	45.4	51.6	13:03:15	56.3	51.6	51.6	51.6	51.6	51.6
45.2	12:02:53	45.2	45.2	45.9	45.9	45.9	45.9	52.9	13:03:18	56.3	52.9	52.9	52.9	52.9	52.9
45.2	12:02:54	45.2	45.2	44.5	44.5	44.5	44.5	52	13:03:21	56.3	52	52	52	52	52
45.3	12:02:55	45.3	45.3	43.3	43.3	43.3	43.3	53.1	13:03:24	56.3	53.1	53.1	53.1	53.1	53.1
45.4	12:02:56	45.4	45.4	43.2	43.2	43.2	43.2	53.6	13:03:27	56.3	53.6	53.6	53.6	53.6	53.6
45.2	12:02:57	45.2	45.2	42.4	42.4	42.4	42.4	53.1	13:03:30	56.3	53.1	53.1	53.1	53.1	53.1
46.1	12:02:58	46.1	46.1	41.9	41.9	41.9	41.9	54.5	13:03:33	56.3	54.5	54.5	54.5	54.5	54.5
46.4	12:02:59	46.4	46.4	42.4	42.4	42.4	42.4	51.8	13:03:36	56.3	51.8	51.8	51.8	51.8	51.8
46.2	12:03:00	46.2	46.2	42.6	42.6	42.6	42.6	52.7	13:03:39	56.3	52.7	52.7	52.7	52.7	52.7
47.2	12:03:01	47.2	47.2	41.8	41.8	41.8	41.8	51.5	13:03:42	56.3	51.5	51.5	51.5	51.5	51.5
49.1	12:03:02	49.1	49.1	41.5	41.5	41.5	41.5	50.9	13:03:45	56.3	50.9	50.9	50.9	50.9	50.9
49.0	12:03:03	49.0	49.0	41.6	41.6	41.6	41.6	50.3	13:03:48	56.3	50.3	50.3	50.3	50.3	50.3
48.1	12:03:04	48.1	48.1	41.5	41.5	41.5	41.5	49.5	13:03:51	56.3	49.5	49.5	49.5	49.5	49.5
48.2	12:03:05	48.2	48.2	41.6	41.6	41.6	41.6	49	13:03:54	56.2	49	49	49	49	49
47.9	12:03:06	47.9	47.9	41.5	41.5	41.5	41.5	49.2	13:03:57	56.2	49.2	49.2	49.2	49.2	49.2
47.3	12:03:07	47.3	47.3	41.5	41.5	41.5	41.5	49.3	13:04:00	56.2	49.3	49.3	49.3	49.3	49.3
47.4	12:03:08	47.4	47.4	41.7	41.7	41.7	41.7	49.3	13:04:03	56.2	49.3	49.3	49.3	49.3	49.3
46.4	12:03:09	46.4	46.4	41.7	41.7	41.7	41.7	48.6	13:04:06	56.2	48.6	48.6	48.6	48.6	48.6
46.1	12:03:10	46.1	46.1	41.6	41.6	41.6	41.6	49	13:04:09	56.2	49	49	49	49	49
48.0	12:03:11	48.0	48.0	41.4	41.4	41.4	41.4	49.3	13:04:12	56.2	49.3	49.3	49.3	49.3	49.3
48.1	12:03:12	48.1	48.1	41.3	41.3	41.3	41.3	49.7	13:04:15	56.2	49.7	49.7	49.7	49.7	49.7
49.9	12:03:13	49.9	49.9	41.0	41.0	41.0	41.0	48.9	13:04:18	56.2	48.9	48.9	48.9	48.9	48.9
48.6	12:03:14	48.6	48.6	40.6	40.6	40.6	40.6	48.2	13:04:21	56.2	48.2	48.2	48.2	48.2	48.2
50.2	12:03:15	50.2	50.2	40.5	40.5	40.5	40.5	47.8	13:04:24	56.2	47.8	47.8	47.8	47.8	47.8
49.1	12:03:16	49.1	49.1	40.4	40.4	40.4	40.4	48.6	13:04:27	56.2	48.6	48.6	48.6	48.6	48.6
50.3	12:03:17	50.3	50.3	40.7	40.7	40.7	40.7	48.5	13:04:30	56.2	48.5	48.5	48.5	48.5	48.5
50.7	12:03:18	50.7	50.7	41.0	41.0	41.0	41.0	48.3	13:04:33	56.2	48.3	48.3	48.3	48.3	48.3
49.8	12:03:19	49.8	49.8	41.2	41.2	41.2	41.2	48.1	13:04:36	56.2	48.1	48.1	48.1	48.1	48.1
49.2	12:03:20	49.2	49.2	41.0	41.0	41.0	41.0	48.4	13:04:39	56.2	48.4	48.4	48.4	48.4	48.4
49.9	12:03:21	49.9	49.9	40.9	40.9	40.9	40.9	49.1	13:04:42	56.2	49.1	49.1	49.1	49.1	49.1
48.2	12:03:22	48.2	48.2	40.9	40.9	40.9	40.9	54.4	13:04:45	56.2	54.4	54.4	54.4	54.4	54.4
49.2	12:03:23	49.2	49.2	40.7	40.7	40.7	40.7	49.2	13:04:48	56.2	49.2	49.2	49.2	49.2	49.2
47.7	12:03:24	47.7	47.7	40.6	40.6	40.6	40.6	49.1	13:04:51	56.2	49.1	49.1	49.1	49.1	49.1
48.5	12:03:25	48.5	48.5	40.6	40.6	40.6	40.6	49.3	13:04:54	56.2	49.3	49.3	49.3	49.3	49.3
48.5	12:03:26	48.5	48.5	40.6	40.6	40.6	40.6	48.3	13:04:57	56.2	48.3	48.3	48.3	48.3	48.3
49.2	12:03:27	49.2	49.2	40.6	40.6	40.6	40.6	47	13:05:00	56.2	47	47	47	47	47
49.8	12:03:28	49.8	49.8	40.6	40.6	40.6	40.6	47.4	13:05:03	56.2	47.4	47.4	47.4	47.4	47.4
49.1	12:03:29	49.1	49.1	40.5	40.5	40.5	40.5	49.4	13:05:06	56.2	49.4	49.4	49.4	49.4	49.4
49.0	12:03:30	49.0	49.0	40.4	40.4	40.4	40.4	48.1	13:05:09	56.2	48.1	48.1	48.1	48.1	48.1
49.0	12:03:31	49.0	49.0	40.3	40.3	40.3	40.3	47.7	13:05:12	56.2	47.7	47.7	47.7	47.7	47.7
48.6	12:03:32	48.6	48.6	40.1	40.1	40.1	40.1	47.6	13:05:15	56.2	47.6	47.6	47.6	47.6	47.6
50.1	12:03:33	50.1	50.1	40.2	40.2	40.2	40.2	47.6	13:05:18	56.2	47.6	47.6	47.6	47.6	47.

APPENDIX C

FHWA Model Traffic Noise Calculation Printouts

FHWA-RD-77-108 HIGHWAY TRAFFIC NOISE PREDICTION MODEL

Scenario: EXISTING CONDITIONS

Project: Magnolia Flats Mixed-Use Project
Site Conditions: Soft

Vehicle Type	Vehicle Mix 1 (Local)			Vehicle Mix 2 (Arterial)			Vehicle Mix 3 (SR-91)		
	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night
Automobiles	73.60%	13.60%	10.22%	69.50%	12.90%	9.60%	63.35%	12.98%	15.19%
Medium Trucks	0.90%	0.90%	0.04%	1.44%	0.06%	1.50%	2.15%	0.39%	1.09%
Heavy Trucks	0.35%	0.04%	0.35%	2.40%	0.10%	2.50%	2.65%	0.25%	1.94%
			0.74%			5.00%			4.85%

Road Name: Polk Street Segment: North of Magnolia Avenue

Average Daily Traffic: 6540 Vehicles		Vehicle Speed: 40 MPH		Vehicle Mix: 2		Roadway Classification: 88 FT Arterial			
NOISE PARAMETERS AT 55 FEET FROM CENTERLINE (Equiv. Lane Dist: 51.97 ft)									
Noise Adjustments				Unmitigated Noise Levels					
Vehicle Type	REMEL Traffic Adj.	Dist Adj.	Finite Adj.	Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL
Automobiles	67.36	-3.53	-1.20	62.27	59.90	58.61	52.55	60.98	61.62
Medium Trucks	76.31	-18.40	-1.20	56.36	37.15	29.37	38.58	44.73	44.77
Heavy Trucks	81.16	-16.18	-1.20	63.42	46.43	38.65	47.86	54.01	54.05
Total:				66.35	60.11	58.66	53.95	61.86	62.39
				Centerline Distance to		Noise Contour (in feet)		Ldn	CNEL
								70 dBA:	16
								65 dBA:	34
								60 dBA:	73
								55 dBA:	158
									171

Road Name: Polk Street Segment: South of Magnolia Avenue

Average Daily Traffic: 5660 Vehicles		Vehicle Speed: 40 MPH		Vehicle Mix: 2		Roadway Classification: 88 FT Arterial			
NOISE PARAMETERS AT 65 FEET FROM CENTERLINE (Equiv. Lane Dist: 62.46 ft)									
Noise Adjustments				Unmitigated Noise Levels					
Vehicle Type	REMEL Traffic Adj.	Dist Adj.	Finite Adj.	Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL
Automobiles	67.36	-4.16	-1.55	60.45	58.08	56.78	50.73	59.16	59.79
Medium Trucks	76.31	-19.03	-1.55	54.53	35.33	27.54	36.75	42.91	42.94
Heavy Trucks	81.16	-16.81	-1.55	61.60	44.61	36.83	46.04	52.19	52.22
Total:				64.53	58.29	56.83	52.12	60.04	60.57
				Centerline Distance to		Noise Contour (in feet)		Ldn	CNEL
								70 dBA:	14
								65 dBA:	30
								60 dBA:	65
								55 dBA:	141
									153

Road Name: Banbury Drive Segment: South of Magnolia Avenue

Average Daily Traffic: 3590 Vehicles		Vehicle Speed: 25 MPH		Vehicle Mix: 1		Roadway Classification: Local			
NOISE PARAMETERS AT 40 FEET FROM CENTERLINE (Equiv. Lane Dist: 38.97 ft)									
Noise Adjustments				Unmitigated Noise Levels					
Vehicle Type	REMEL Traffic Adj.	Dist Adj.	Finite Adj.	Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL
Automobiles	59.44	-3.85	1.52	55.91	53.79	52.48	46.46	54.88	55.51
Medium Trucks	71.09	-21.09	1.52	50.32	29.07	35.09	16.80	29.94	32.70
Heavy Trucks	78.74	-25.04	1.52	54.02	28.67	25.27	29.92	36.12	36.21
Total:				58.75	53.82	52.56	46.56	54.95	55.58
				Centerline Distance to		Noise Contour (in feet)		Ldn	CNEL
								70 dBA:	4
								65 dBA:	9
								60 dBA:	18
								55 dBA:	40
									44

FHWA-RD-77-108 HIGHWAY TRAFFIC NOISE PREDICTION MODEL

Scenario: EXISTING CONDITIONS

Project: Magnolia Flats Mixed-Use Project
Site Conditions: Soft

Road Name: Magnolia Avenue **Segment: West of Polk Street**
 Average Daily Traffic: 29420 Vehicles Vehicle Speed: 40 MPH Vehicle Mix: 2 Roadway Classification: 110 Ft Arterial

Vehicle Type	NOISE PARAMETERS AT 110 FEET FROM CENTERLINE				Unmitigated Noise Levels				Centerline Distance to Noise Contour (in feet)						
	REME L Traffic Adj.	Dist Adj.	Finite Adj		Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL					
Automobiles	67.36	3.00	-4.87	-1.20	64.29	61.92	60.62	54.57	63.00	63.63					
Medium Trucks	76.31	-11.87	-4.87	-1.20	58.37	39.17	31.38	40.59	46.75	46.78					
Heavy Trucks	81.16	-9.65	-4.87	-1.20	65.44	48.45	40.67	49.88	56.03	56.06					
Total:										68.37	62.13	60.67	55.97	63.88	64.41

Road Name: Magnolia Avenue

Segment: West of Banbury Drive
 Average Daily Traffic: 30300 Vehicles Vehicle Speed: 40 MPH Vehicle Mix: 2 Roadway Classification: 120 FT Arterial

Vehicle Type	NOISE PARAMETERS AT 110 FEET FROM CENTERLINE				Unmitigated Noise Levels				Centerline Distance to Noise Contour (in feet)						
	REME L Traffic Adj.	Dist Adj.	Finite Adj		Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL					
Automobiles	67.36	3.13	-4.67	-1.20	64.61	62.24	60.95	54.89	63.33	63.96					
Medium Trucks	76.31	-11.74	-4.67	-1.20	58.70	39.49	31.71	40.92	47.07	47.11					
Heavy Trucks	81.16	-9.52	-4.67	-1.20	65.77	48.78	40.99	50.20	56.36	56.39					
Total:										68.70	62.46	61.00	56.29	64.21	64.73

Road Name: Magnolia Avenue

Segment: East of Banbury Drive
 Average Daily Traffic: 31190 Vehicles Vehicle Speed: 40 MPH Vehicle Mix: 2 Roadway Classification: 120 FT Arterial

Vehicle Type	NOISE PARAMETERS AT 280 FEET FROM CENTERLINE				Unmitigated Noise Levels				Centerline Distance to Noise Contour (in feet)						
	REME L Traffic Adj.	Dist Adj.	Finite Adj		Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL					
Automobiles	67.36	3.25	-11.24	-1.20	58.17	55.80	54.50	48.45	56.88	57.51					
Medium Trucks	76.31	-11.61	-11.24	-1.20	52.25	33.05	25.26	34.47	40.63	40.66					
Heavy Trucks	81.16	-9.40	-11.24	-1.20	59.32	42.33	34.55	43.76	49.91	49.94					
Total:										62.25	56.01	54.55	49.84	57.76	58.29

FHWA-RD-77-108 HIGHWAY TRAFFIC NOISE PREDICTION MODEL

Scenario: EXISTING WITH PROJECT CONDITIONS

Project: Magnolia Flats Mixed-Use Project
Site Conditions: Soft

Vehicle Type	Vehicle Mix 1 (Local)			Vehicle Mix 2 (Arterial)			Vehicle Mix 3 (SR-91)		
	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night
Automobiles	73.60%	13.60%	10.22%	69.50%	12.90%	9.60%	63.35%	12.98%	15.19%
Medium Trucks	0.90%	0.90%	0.04%	1.44%	0.06%	1.50%	2.15%	0.39%	1.09%
Heavy Trucks	0.35%	0.04%	0.35%	2.40%	0.10%	2.50%	2.65%	0.25%	1.94%
			0.74%			5.00%			4.85%

Road Name: Polk Street Segment: North of Magnolia Avenue

Average Daily Traffic: 6720 Vehicles		Vehicle Speed: 40 MPH		Vehicle Mix: 2		Roadway Classification: 88 FT Arterial			
NOISE PARAMETERS AT 55 FEET FROM CENTERLINE (Equiv. Lane Dist: 51.97 ft)									
Noise Adjustments				Unmitigated Noise Levels					
Vehicle Type	REMEL Traffic Adj.	Dist Adj.	Finite Adj.	Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL
Automobiles	67.36	-3.41	-1.20	62.39	60.02	58.72	52.67	61.10	61.73
Medium Trucks	76.31	-18.28	-1.20	56.48	37.27	29.49	38.69	44.85	44.88
Heavy Trucks	81.16	-16.06	-1.20	63.54	46.55	38.77	47.98	54.13	54.17
Total:				66.47	60.23	58.77	54.07	61.98	62.51
				Centerline Distance to		Noise Contour (in feet)		Ldn	CNEL
								70 dBA:	16
								65 dBA:	35
								60 dBA:	75
								55 dBA:	161
									174

Road Name: Polk Street Segment: South of Magnolia Avenue

Average Daily Traffic: 5840 Vehicles		Vehicle Speed: 40 MPH		Vehicle Mix: 2		Roadway Classification: 88 FT Arterial			
NOISE PARAMETERS AT 65 FEET FROM CENTERLINE (Equiv. Lane Dist: 62.46 ft)									
Noise Adjustments				Unmitigated Noise Levels					
Vehicle Type	REMEL Traffic Adj.	Dist Adj.	Finite Adj.	Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL
Automobiles	67.36	-4.02	-1.55	60.58	58.21	56.92	50.86	59.30	59.93
Medium Trucks	76.31	-18.89	-1.55	54.67	35.46	27.68	36.89	43.04	43.08
Heavy Trucks	81.16	-16.67	-1.55	61.73	44.75	36.96	46.17	52.33	52.36
Total:				64.67	58.42	56.97	52.26	60.18	60.70
				Centerline Distance to		Noise Contour (in feet)		Ldn	CNEL
								70 dBA:	14
								65 dBA:	31
								60 dBA:	67
								55 dBA:	144
									156

Road Name: Banbury Drive Segment: South of Magnolia Avenue

Average Daily Traffic: 3770 Vehicles		Vehicle Speed: 25 MPH		Vehicle Mix: 1		Roadway Classification: Local			
NOISE PARAMETERS AT 40 FEET FROM CENTERLINE (Equiv. Lane Dist: 38.97 ft)									
Noise Adjustments				Unmitigated Noise Levels					
Vehicle Type	REMEL Traffic Adj.	Dist Adj.	Finite Adj.	Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL
Automobiles	59.44	-3.63	1.52	56.12	54.00	52.69	46.68	55.10	55.72
Medium Trucks	71.09	-20.87	1.52	50.53	29.28	35.30	17.01	30.16	32.91
Heavy Trucks	78.74	-24.83	1.52	54.23	28.88	25.48	30.13	36.33	36.42
Total:				58.96	54.03	52.78	46.78	55.17	55.80
				Centerline Distance to		Noise Contour (in feet)		Ldn	CNEL
								70 dBA:	4
								65 dBA:	9
								60 dBA:	19
								55 dBA:	41
									45

FHWA-RD-77-108 HIGHWAY TRAFFIC NOISE PREDICTION MODEL

Scenario: EXISTING WITH PROJECT CONDITIONS

Project: Magnolia Flats Mixed-Use Project
Site Conditions: Soft

Road Name: Magnolia Avenue		Segment: West of Polk Street		Roadway Classification: 110 Ft Arterial								
Average Daily Traffic: 30650 Vehicles		Vehicle Speed: 40 MPH		Vehicle Mix: 2								
NOISE PARAMETERS AT 110 FEET FROM CENTERLINE (Equiv. Lane Dist: 103.94 ft)												
Noise Adjustments			Unmitigated Noise Levels									
Vehicle Type	REMEL Traffic Adj.	Dist Adj.	Finite Adj.	Leq Peak	Leq Day	Leq Eve. Leq Night	Ldn	CNEL	Centerline Distance to Noise Contour (in feet)	Ldn	CNEL	
Automobiles	67.36	3.18	-4.87	-1.20	64.47	62.09	60.80	54.75	63.18	63.81	70 dBA: 44	48
Medium Trucks	76.31	-11.69	-4.87	-1.20	58.55	39.34	31.56	40.77	46.92	46.96	65 dBA: 95	103
Heavy Trucks	81.16	-9.47	-4.87	-1.20	65.62	48.63	40.85	50.05	56.21	56.24	60 dBA: 205	222
Total:				68.55	62.31	60.85	56.14	64.06	64.58	64.58	55 dBA: 442	479

Road Name: Magnolia Avenue		Segment: West of Banbury Drive		Roadway Classification: 120 FT Arterial								
Average Daily Traffic: 31870 Vehicles		Vehicle Speed: 40 MPH		Vehicle Mix: 2								
NOISE PARAMETERS AT 110 FEET FROM CENTERLINE (Equiv. Lane Dist: 100.82 ft)												
Noise Adjustments			Unmitigated Noise Levels									
Vehicle Type	REMEL Traffic Adj.	Dist Adj.	Finite Adj.	Leq Peak	Leq Day	Leq Eve. Leq Night	Ldn	CNEL	Centerline Distance to Noise Contour (in feet)	Ldn	CNEL	
Automobiles	67.36	3.35	-4.67	-1.20	64.83	62.46	61.17	55.11	63.55	64.18	70 dBA: 47	51
Medium Trucks	76.31	-11.52	-4.67	-1.20	58.92	39.71	31.93	41.14	47.29	47.33	65 dBA: 101	109
Heavy Trucks	81.16	-9.30	-4.67	-1.20	65.99	49.00	41.21	50.42	56.58	56.61	60 dBA: 217	235
Total:				68.92	62.68	61.22	56.51	64.43	64.95	64.95	55 dBA: 467	507

Road Name: Magnolia Avenue		Segment: East of Banbury Drive		Roadway Classification: 120 FT Arterial								
Average Daily Traffic: 32450 Vehicles		Vehicle Speed: 40 MPH		Vehicle Mix: 2								
NOISE PARAMETERS AT 280 FEET FROM CENTERLINE (Equiv. Lane Dist: 276.52 ft)												
Noise Adjustments			Unmitigated Noise Levels									
Vehicle Type	REMEL Traffic Adj.	Dist Adj.	Finite Adj.	Leq Peak	Leq Day	Leq Eve. Leq Night	Ldn	CNEL	Centerline Distance to Noise Contour (in feet)	Ldn	CNEL	
Automobiles	67.36	3.42	-11.24	-1.20	58.34	55.97	54.67	48.62	57.05	57.68	70 dBA: 44	48
Medium Trucks	76.31	-11.44	-11.24	-1.20	52.43	33.22	25.44	34.64	40.80	40.83	65 dBA: 95	103
Heavy Trucks	81.16	-9.22	-11.24	-1.20	59.49	42.50	34.72	43.93	50.08	50.12	60 dBA: 204	221
Total:				62.42	56.18	54.72	50.02	57.93	58.46	58.46	55 dBA: 439	476

Road Name: Magnolia Avenue		Segment: At Proposed Apartments		Roadway Classification: 120 FT Arterial								
Average Daily Traffic: 32450 Vehicles		Vehicle Speed: 40 MPH		Vehicle Mix: 2								
NOISE PARAMETERS AT 600 FEET FROM CENTERLINE (Equiv. Lane Dist: 598.38 ft)												
Noise Adjustments			Unmitigated Noise Levels									
Vehicle Type	REMEL Traffic Adj.	Dist Adj.	Finite Adj.	Leq Peak	Leq Day	Leq Eve. Leq Night	Ldn	CNEL	Centerline Distance to Noise Contour (in feet)	Ldn	CNEL	
Automobiles	67.36	3.42	-16.27	-1.20	53.31	50.94	49.65	43.59	52.02	52.65	70 dBA: 43	47
Medium Trucks	76.31	-11.44	-16.27	-1.20	47.40	28.19	20.41	29.62	35.77	35.80	65 dBA: 94	102
Heavy Trucks	81.16	-9.22	-16.27	-1.20	54.46	37.47	29.69	38.90	45.05	45.09	60 dBA: 202	219
Total:				57.39	51.15	49.69	44.99	52.90	53.43	53.43	55 dBA: 435	471

APPENDIX D

Reference Noise Measurements of Proposed Onsite Noise Sources

General Information

Serial Number 02509
 Model 831
 Firmware Version 2.112
 Filename 831_Data.005
 User GT
 Job Description Northwest Fresno Walmart Relocation
 Location Rooftop HVAC Unit

Measurement Description
 Start Time Saturday, 2013 July 27 18:31:43
 Stop Time Saturday, 2013 July 27 18:41:44
 Duration 00:10:01.1
 Run Time 00:10:01.1
 Pause 00:00:00.0
 Pre Calibration Saturday, 2013 July 27 17:53:07
 Post Calibration None
 Calibration Deviation ---

Note

Located 10 feet southeast of rooftop HVAC Unit 14 located on western side of roof
 94 F, 30% Hu., 29.45 in Hg, no wind, partly cloudy

Overall Data

LAeq 66.6 dB
 LASmax 2013 Jul 27 18:33:16 67.6 dB
 LApeak (max) 2013 Jul 27 18:32:17 81.6 dB
 LASmin 2013 Jul 27 18:41:08 65.8 dB
 LCeq 75.8 dB
 LAeq 66.6 dB
 LCeq - LAeq 9.2 dB
 LAIeq 67.2 dB
 LAeq 66.6 dB
 LAIeq - LAeq 0.6 dB
 Ldn 66.6 dB
 LDay 07:00-23:00 66.6 dB
 LNight 23:00-07:00 --- dB
 Lden 66.6 dB
 LDay 07:00-19:00 66.6 dB
 LEvening 19:00-23:00 --- dB
 LNight 23:00-07:00 --- dB
 LAE 94.4 dB
 # Overloads 0
 Overload Duration 0.0 s
 # OBA Overloads 0
 OBA Overload Duration 0.0 s

Statistics

LAS5.00 67.0 dBA
 LAS10.00 66.9 dBA
 LAS33.30 66.7 dBA
 LAS50.00 66.6 dBA
 LAS66.60 66.5 dBA
 LAS90.00 66.3 dBA

LAS > 65.0 dB (Exceedence Counts / Duration) 1 / 601.1 s
 LAS > 85.0 dB (Exceedence Counts / Duration) 0 / 0.0 s
 LApeak > 135.0 dB (Exceedence Counts / Duration) 0 / 0.0 s
 LApeak > 137.0 dB (Exceedence Counts / Duration) 0 / 0.0 s
 LApeak > 140.0 dB (Exceedence Counts / Duration) 0 / 0.0 s

Settings

RMS Weight A Weighting
 Peak Weight A Weighting
 Detector Slow
 Preamp PRM831
 Integration Method Linear
 OBA Range Normal
 OBA Bandwidth 1/1 and 1/3
 OBA Freq. Weighting Z Weighting
 OBA Max Spectrum Bin Max
 Gain +0 dB

Under Range Limit 26.2 dB
 Under Range Peak 75.8 dB
 Noise Floor 17.1 dB
 Overload 143.4 dB

1/1 Spectra

Freq. (Hz):	8.0	16.0	31.5	63.0	125	250	500	1k	2k	4k	8k	16k
LZeq	70.9	64.4	61.4	74.2	68.2	64.9	66.3	61.7	55.1	49.9	44.3	44.0
LZSmax	83.8	78.9	70.0	78.4	72.3	66.1	67.8	63.1	56.9	53.2	46.7	45.4
LZSmin	53.2	56.5	56.7	67.7	66.1	63.5	65.0	60.7	53.9	48.4	43.2	43.7

1/3 Spectra

Freq. (Hz):	6.3	8.0	10.0	12.5	16.0	20.0	25.0	31.5	40.0	50.0	63.0	80.0
LZeq	68.1	65.7	63.2	61.0	58.0	59.3	56.0	57.8	55.8	69.7	72.0	59.3
LZSmax	82.3	79.5	78.7	77.2	72.8	72.3	67.9	63.5	64.0	74.2	76.1	72.0
LZSmin	41.9	46.3	48.8	48.7	46.5	49.7	50.1	51.8	41.2	63.9	67.9	54.5
Freq. (Hz):	100	125	160	200	250	315	400	500	630	800	1k	1.25k
LZeq	61.6	63.7	64.5	59.0	58.7	60.9	63.2	60.8	59.9	59.2	56.1	54.6
LZSmax	71.3	68.0	67.3	61.6	61.7	64.1	65.5	64.2	62.0	60.7	57.6	58.6
LZSmin	52.9	60.0	57.2	45.1	56.0	58.9	61.1	58.4	58.4	57.1	54.9	53.3
Freq. (Hz):	1.6k	2k	2.5k	3.15k	4k	5k	6.3k	8k	10k	12.5k	16k	20k
LZeq	52.0	49.8	48.4	46.4	45.4	42.8	41.1	38.6	38.5	38.4	39.0	40.2
LZSmax	54.4	52.3	51.2	50.2	49.7	45.7	45.4	41.6	40.4	40.4	41.4	41.3
LZSmin	50.9	48.4	46.9	45.0	43.7	41.4	39.6	37.5	37.9	38.0	38.7	39.9

Calibration History

Preamp	Date	dB re. 1V/Pa
PRM831	27 Jul 2013 17:53:07	-25.9
PRM831	27 Jul 2013 13:36:08	-25.6
PRM831	28 Apr 2013 15:34:24	-25.9
PRM831	23 Apr 2013 10:17:33	-25.0
PRM831	27 Feb 2013 19:15:30	-25.7
PRM831	24 Jan 2013 12:00:16	-25.6
PRM831	15 Jan 2013 07:50:44	-26.2
PRM831	04 Jan 2013 13:47:46	-26.5

General Information

Serial Number 02509
 Model 831
 Firmware Version 2.314
 Filename 831_Data.001
 User GT
 Job Description
 Location Moddle of East Side of Laguna Beach Dog Park

Measurement Description

Start Time Monday, 2019 October 28 18:04:51
 Stop Time Monday, 2019 October 28 18:14:51
 Duration 00:10:00.0
 Run Time 00:10:00.0
 Pause 00:00:00.0
 Pre Calibration Monday, 2019 October 28 18:00:16
 Post Calibration
 Calibration Deviation ---

Note

Approx 25 dogs in Park. Located next to Park Bench at the Middle of East Side. Approx 290 ft east of SR-133 CL
 66 F, 29.69 in Hg, 35% Hu, no wind

Overall Data

LAeq		60.2	dB
LASmax	2019 Oct 28 18:07:29	73.1	dB
LZpeak (max)	2019 Oct 28 18:04:51	104.4	dB
LASmin	2019 Oct 28 18:10:52	49.9	dB
LCeq		64.7	dB
LAeq		60.2	dB
LCeq - LAeq		4.5	dB
LA1eq		67.0	dB
LAeq		60.2	dB
LA1eq - LAeq		6.8	dB
Ldn		60.2	dB
LDay 07:00-22:00		60.2	dB
LNight 22:00-07:00		---	dB
Lden		60.2	dB
LDay 07:00-19:00		60.2	dB
LEvening 19:00-22:00		---	dB
LNight 22:00-07:00		---	dB
LAE		88.0	dB
# Overloads		0	
Overload Duration		0.0	s
# OBA Overloads		0	
OBA Overload Duration		0.0	s

Statistics

LAS5.00	65.7	dBA
LAS10.00	63.9	dBA
LAS33.30	58.6	dBA
LAS50.00	56.3	dBA
LAS66.60	54.9	dBA
LAS90.00	53.8	dBA
LAS > 65.0 dB (Exceedence Counts / Duration)	24 / 65.2	s
LAS > 85.0 dB (Exceedence Counts / Duration)	0 / 0.0	s
LZpeak > 135.0 dB (Exceedence Counts / Duration)	0 / 0.0	s
LZpeak > 137.0 dB (Exceedence Counts / Duration)	0 / 0.0	s
LZpeak > 140.0 dB (Exceedence Counts / Duration)	0 / 0.0	s

Settings

RMS Weight	A Weighting	
Peak Weight	Z Weighting	
Detector	Slow	
Preamp	PRM831	
Integration Method	Linear	
OBA Range	Low	
OBA Bandwidth	1/1 and 1/3	
OBA Freq. Weighting	Z Weighting	
OBA Max Spectrum	Bin Max	
Gain	+0	dB
Under Range Limit	26.2	dB
Under Range Peak	78.1	dB
Noise Floor	17.1	dB
Overload	143.6	dB

1/1 Spectra

Freq. (Hz):	8.0	16.0	31.5	63.0	125	250	500	1k	2k	4k	8k	16k
LZeq	56.1	52.5	56.9	60.2	57.6	50.8	54.9	58.2	52.6	39.1	32.7	24.2
LZSmax	82.3	73.2	63.9	71.3	72.0	65.7	68.3	72.3	67.2	54.0	52.5	44.0
LZSmin	38.8	44.5	49.4	50.0	48.2	42.2	40.5	48.3	41.9	29.5	15.1	13.3

1/3 Spectra												
Freq. (Hz):	6.3	8.0	10.0	12.5	16.0	20.0	25.0	31.5	40.0	50.0	63.0	80.0
LZeq	49.1	52.5	51.4	47.3	48.0	47.8	52.5	50.6	52.9	56.7	54.4	55.3
LZSmax	73.8	78.3	77.2	70.6	67.3	63.0	60.0	61.5	62.6	71.3	63.1	70.0
LZSmin	27.3	32.4	33.8	36.5	38.3	39.7	41.5	42.8	43.8	44.8	43.8	43.2
Freq. (Hz):	100	125	160	200	250	315	400	500	630	800	1k	1.25k
LZeq	54.4	52.1	51.8	47.5	46.0	43.3	48.0	51.3	50.5	54.7	54.2	49.8
LZSmax	70.1	67.3	67.0	61.7	63.4	59.9	63.4	64.9	67.9	71.6	70.1	66.6
LZSmin	43.4	41.8	39.5	38.9	36.6	33.3	31.7	33.8	38.3	42.5	44.1	43.4
Freq. (Hz):	1.6k	2k	2.5k	3.15k	4k	5k	6.3k	8k	10k	12.5k	16k	20k
LZeq	50.6	47.2	42.4	37.0	33.1	28.9	28.4	28.7	25.8	21.9	18.5	14.7
LZSmax	66.5	62.9	57.8	51.9	49.7	48.4	48.7	50.3	46.9	40.8	39.3	31.6
LZSmin	40.0	35.7	30.6	26.3	24.7	18.9	12.0	9.5	7.9	7.7	8.9	8.8

Calibration History

Preamp	Date	dB re. 1V/Pa
PRM831	28 Oct 2019 18:00:14	-26.1
PRM831	06 Oct 2019 13:06:55	-26.7
PRM831	18 Sep 2019 13:58:16	-26.8
PRM831	18 Sep 2019 11:09:07	-26.6
PRM831	07 Aug 2019 12:27:09	-27.3
PRM831	07 Aug 2019 05:49:21	-27.0
PRM831	06 Aug 2019 15:11:44	-26.3
PRM831	06 Aug 2019 12:24:00	-26.0
PRM831	22 Jul 2019 10:48:48	-26.3
PRM831	12 Jul 2019 20:18:07	-26.0
PRM831	29 May 2019 13:46:43	-25.9

File Translated: V:\Vista Env\2010\10007-Orange Salem Lutheran Church\Noise Measurements\D-6-20-10.slmddl
 Model/Serial Number: 824 / A3176
 Firmware/Software Revs: 4.283 / 3.120
 Name:
 Descr1: 1021 Didrikson Way
 Descr2: Laguna Beach, CA 92651
 Setup/Setup Descr: slm&rtas.ssa / SLM & Real-Time Analyzer
 Location: Taken after church service - noise primarily from reception and playgr
 Notel: 5' north of playground - kids playing
 Note2: 40' SW of multipurpose south doors

Overall Any Data

Start Time: 20-Jun-2010 11:00:56
 Elapsed Time: 00:12:00.6

	A Weight	C Weight	Flat
Leq:	66.6 dBA	69.3 dBC	69.6 dBF
SEL:	95.1 dBA	97.8 dBC	98.2 dBF
Peak:	100.4 dBA	102.5 dBC	102.6 dBF
20-Jun-2010 11:11:23		20-Jun-2010 11:04:20	20-Jun-2010 11:04:20
Lmax (slow):	85.3 dBA	88.9 dBC	88.9 dBF
20-Jun-2010 11:04:20		20-Jun-2010 11:04:19	20-Jun-2010 11:04:19
Lmin (slow):	51.6 dBA	58.6 dBC	59.5 dBF
20-Jun-2010 11:00:56		20-Jun-2010 11:00:56	20-Jun-2010 11:00:56
Lmax (fast):	90.7 dBA	94.4 dBC	94.4 dBF
20-Jun-2010 11:04:19		20-Jun-2010 11:04:19	20-Jun-2010 11:04:19
Lmin (fast):	47.1 dBA	57.4 dBC	58.6 dBF
20-Jun-2010 11:01:31		20-Jun-2010 11:01:26	20-Jun-2010 11:01:26
Lmax (impulse):	92.5 dBA	95.9 dBC	95.8 dBF
20-Jun-2010 11:04:20		20-Jun-2010 11:04:19	20-Jun-2010 11:04:19
Lmin (impulse):	51.6 dBA	58.5 dBC	59.3 dBF
20-Jun-2010 11:00:56		20-Jun-2010 11:00:56	20-Jun-2010 11:00:56

Spectra

Date 20-Jun-2010 Time 11:00:56 Run Time 00:12:00.6

Hz	Leq1/3	Leq1/1	Max1/3	Max1/1	Min1/3	Min1/1	Hz	Leq1/3	Leq1/1	Max1/3	Max1/1	Min1/3	Min1/1
12.5	48.9		51.8		27.0		630	57.3		73.7		34.5	
16.0	49.0	54.8	55.5	58.9	31.6	35.9	800	57.5		58.5		36.0	
20.0	51.6		54.4		32.8		1000	58.7	62.4	81.2	81.3	34.1	39.1
25.0	52.0		50.3		36.0		1250	56.2		65.3		32.1	
31.5	51.7	56.6	50.4	55.8	37.0	41.3	1600	55.2		61.7		32.4	
40.0	51.8		52.1		36.6		2000	54.7	58.8	61.7	66.5	30.1	35.3
50.0	61.6		65.1		47.9		2500	51.4		61.9		28.0	
63.0	54.9	62.8	55.3	65.8	43.9	49.6	3150	50.2		58.6		25.7	
80.0	52.0		53.1		36.2		4000	48.2	53.0	57.2	62.1	24.7	29.1
100	51.1		52.1		36.3		5000	44.7		55.8		21.6	
125	50.9	55.2	51.3	57.0	34.6	40.0	6300	42.0		50.0		20.1	
160	49.1		53.0		34.4		8000	43.2	46.8	52.4	55.9	18.2	23.6
200	49.5		50.7		34.0		10000	40.6		50.5		17.8	
250	50.5	55.6	53.7	71.0	33.0	38.9	12500	40.3		44.9		17.5	
315	52.1		70.9		35.1		16000	31.4	41.1	39.2	46.0	18.2	23.5
400	59.8		83.7		33.1		20000	28.4		30.1		20.0	
500	62.6	65.2	89.7	90.8	34.1	38.7							

Ln Start Level: 15 dB
 L1.00 0.0 dBA L50.00 0.0 dBA L95.00 0.0 dBA
 L5.00 0.0 dBA L90.00 0.0 dBA L99.00 0.0 dBA

Detector: Slow
 Weighting: A
 SPL Exceedance Level 1: 85.0 dB Exceeded: 1 times
 SPL Exceedance level 2: 120 dB Exceeded: 0 times
 Peak-1 Exceedance Level: 105 dB Exceeded: 0 times
 Peak-2 Exceedance Level: 100 dB Exceeded: 1 times
 Hysteresis: 2
 Overloaded: 0 time(s)
 Paused: 0 times for 00:00:00.0

File Translated: V:\Vista Env\2010\10007-Orange Salem Lutheran Church\Noise Measurements\D-6-20-10.slmdl
 Model/Serial Number: 824 / A3176

Current Any Data

Start Time: 20-Jun-2010 11:00:56
 Elapsed Time: 00:12:00.6

	A Weight	C Weight	Flat
Leq:	66.6 dBA	69.3 dBC	69.6 dBF
SEL:	95.1 dBA	97.8 dBC	98.2 dBF
Peak:	100.4 dBA	102.5 dBC	102.6 dBF
20-Jun-2010 11:11:23		20-Jun-2010 11:04:20	20-Jun-2010 11:04:20
Lmax (slow):	85.3 dBA	88.9 dBC	88.9 dBF
20-Jun-2010 11:04:20		20-Jun-2010 11:04:19	20-Jun-2010 11:04:19
Lmin (slow):	51.6 dBA	58.6 dBC	59.5 dBF
20-Jun-2010 11:00:56		20-Jun-2010 11:00:56	20-Jun-2010 11:00:56
Lmax (fast):	90.7 dBA	94.4 dBC	94.4 dBF
20-Jun-2010 11:04:19		20-Jun-2010 11:04:19	20-Jun-2010 11:04:19
Lmin (fast):	47.1 dBA	57.4 dBC	58.6 dBF
20-Jun-2010 11:01:31		20-Jun-2010 11:01:26	20-Jun-2010 11:01:26
Lmax (impulse):	92.5 dBA	95.9 dBC	95.8 dBF
20-Jun-2010 11:04:20		20-Jun-2010 11:04:19	20-Jun-2010 11:04:19
Lmin (impulse):	51.6 dBA	58.5 dBC	59.3 dBF
20-Jun-2010 11:00:56		20-Jun-2010 11:00:56	20-Jun-2010 11:00:56

Calibrated:	20-Jun-2010 08:58:03	Offset:	-48.1 dB
Checked:	20-Jun-2010 08:58:03	Level:	94.0 dB
Calibrator	not set	Level:	94.0 dB
Cal Records Count:	0		

Interval Records:	Disabled	Number Interval Records:	0
History Records:	Disabled	Number History Records:	0
Run/Stop Records:		Number Run/Stop Records:	2

File Translated: Z:\Vista Env\2007\070801 - Orange-SullyMiller\Noise\Noise Measurements\Pool\Pool.slm₁
 Model/Serial Number: 824 / A3176
 Firmware/Software Revs: 4.283 / 3.120
 Name: Vista Environmental
 Descr1: 1021 Didrikson Way
 Descr2: Laguna Beach, CA 92651
 Setup/Setup Descr: slm&rt.a.ssa / SLM & Real-Time Analyzer
 Location: Laguna Beach High School Pool
 Note1: 15' southeast of pool approximately 50 people in pool area
 Note2: outside of wrought iron fence

Overall Any Data

Start Time: 29-Jul-2009 14:27:25
 Elapsed Time: 00:10:00.6

	A Weight	C Weight	Flat
Leq:	66.6 dBA	68.9 dBC	69.4 dBF
SEL:	94.4 dBA	96.7 dBC	97.2 dBF
Peak:	102.2 dBA	103.5 dBC	103.5 dBF
29-Jul-2009 14:29:27	29-Jul-2009 14:29:27	29-Jul-2009 14:29:27	29-Jul-2009 14:29:27
Lmax (slow):	77.3 dBA	77.1 dBC	77.1 dBF
29-Jul-2009 14:35:38	29-Jul-2009 14:27:26	29-Jul-2009 14:27:26	29-Jul-2009 14:27:26
Lmin (slow):	60.5 dBA	65.1 dBC	65.5 dBF
29-Jul-2009 14:30:48	29-Jul-2009 14:31:59	29-Jul-2009 14:31:59	29-Jul-2009 14:31:59
Lmax (fast):	82.5 dBA	81.1 dBC	81.5 dBF
29-Jul-2009 14:35:38	29-Jul-2009 14:35:38	29-Jul-2009 14:35:38	29-Jul-2009 14:35:38
Lmin (fast):	57.9 dBA	63.7 dBC	64.3 dBF
29-Jul-2009 14:31:15	29-Jul-2009 14:27:39	29-Jul-2009 14:27:39	29-Jul-2009 14:27:39
Lmax (impulse):	84.0 dBA	85.1 dBC	85.1 dBF
29-Jul-2009 14:29:27	29-Jul-2009 14:29:27	29-Jul-2009 14:29:27	29-Jul-2009 14:29:27
Lmin (impulse):	60.8 dBA	65.1 dBC	65.5 dBF
29-Jul-2009 14:30:48	29-Jul-2009 14:31:59	29-Jul-2009 14:31:59	29-Jul-2009 14:31:59

Spectra

Date: 29-Jul-2009
 Time: 14:27:25
 Run Time: 00:10:00.6

Hz	Leq1/3	Leq1/1	Max1/3	Max1/1	Min1/3	Min1/1	Hz	Leq1/3	Leq1/1	Max1/3	Max1/1	Min1/3	Min1/1
12.5	53.4		55.1		30.1		630	56.9		58.5		46.3	
16.0	53.2	58.3	55.5	62.1	34.1	38.6	800	58.6		63.6		48.1	
20.0	53.9		59.7		35.7		1000	59.4	63.7	61.4	70.3	46.9	51.8
25.0	52.0		54.5		36.2		1250	58.7		68.5		45.8	
31.5	54.0	58.6	66.8	68.4	37.7	43.4	1600	57.2		62.8		47.0	
40.0	55.0		62.6		40.7		2000	55.2	60.3	64.7	76.3	45.2	50.1
50.0	55.4		65.5		43.7		2500	53.3		75.8		42.8	
63.0	56.3	59.9	60.0	67.1	44.1	47.9	3150	50.2		72.3		41.7	
80.0	53.0		57.8		41.2		4000	47.2	52.6	52.6	72.4	39.2	44.4
100	54.3		54.1		39.3		5000	43.8		56.0		36.4	
125	60.9	62.0	60.7	62.2	55.1	55.3	6300	39.7		50.4		32.7	
160	49.5		53.6		38.4		8000	36.4	42.0	41.5	51.1	29.8	35.1
200	49.1		56.0		40.8		10000	33.3		37.3		26.3	
250	49.9	54.7	57.2	62.0	41.8	46.5	12500	30.2		34.6		23.3	
315	50.6		58.1		42.5		16000	26.8	32.4	32.3	37.0	20.8	26.5
400	53.5		61.8		46.5		20000	23.4		26.8		20.7	
500	56.1	60.5	62.6	66.1	47.0	51.4							

Ln Start Level: 15 dB
 L1.00 0.0 dBA L50.00 0.0 dBA L95.00 0.0 dBA
 L5.00 0.0 dBA L90.00 0.0 dBA L99.00 0.0 dBA

Detector: Slow
 Weighting: A
 SPL Exceedance Level 1: 85.0 dB Exceeded: 0 times
 SPL Exceedance level 2: 120 dB Exceeded: 0 times
 Peak-1 Exceedance Level: 105 dB Exceeded: 0 times
 Peak-2 Exceedance Level: 100 dB Exceeded: 1 times
 Hysteresis: 2
 Overloaded: 0 time(s)
 Paused: 0 times for 00:00:00.0

File Translated: Z:\Vista Env\2007\070801 - Orange-SullyMiller\Noise\Noise Measurements\Pool\Pool.slmdl
 Model/Serial Number: 824 / A3176

Current Any Data

Start Time: 29-Jul-2009 14:27:25
 Elapsed Time: 00:10:00.6

	A Weight	C Weight	Flat
Leq:	66.6 dBA	68.9 dBC	69.4 dBF
SEL:	94.4 dBA	96.7 dBC	97.2 dBF
Peak:	102.2 dBA	103.5 dBC	103.5 dBF
29-Jul-2009 14:29:27	29-Jul-2009 14:29:27	29-Jul-2009 14:29:27	29-Jul-2009 14:29:27
Lmax (slow):	77.3 dBA	77.1 dBC	77.1 dBF
29-Jul-2009 14:35:38	29-Jul-2009 14:27:26	29-Jul-2009 14:27:26	29-Jul-2009 14:27:26
Lmin (slow):	60.5 dBA	65.1 dBC	65.5 dBF
29-Jul-2009 14:30:48	29-Jul-2009 14:31:59	29-Jul-2009 14:31:59	29-Jul-2009 14:31:59
Lmax (fast):	82.5 dBA	81.1 dBC	81.5 dBF
29-Jul-2009 14:35:38	29-Jul-2009 14:35:38	29-Jul-2009 14:35:38	29-Jul-2009 14:35:38
Lmin (fast):	57.9 dBA	63.7 dBC	64.3 dBF
29-Jul-2009 14:31:15	29-Jul-2009 14:27:39	29-Jul-2009 14:27:39	29-Jul-2009 14:27:39
Lmax (impulse):	84.0 dBA	85.1 dBC	85.1 dBF
29-Jul-2009 14:29:27	29-Jul-2009 14:29:27	29-Jul-2009 14:29:27	29-Jul-2009 14:29:27
Lmin (impulse):	60.8 dBA	65.1 dBC	65.5 dBF
29-Jul-2009 14:30:48	29-Jul-2009 14:31:59	29-Jul-2009 14:31:59	29-Jul-2009 14:31:59

Calibrated:	29-Jul-2009 14:25:33	Offset:	-48.0 dB
Checked:	29-Jul-2009 14:25:33	Level:	94.0 dB
Calibrator	not set	Level:	94.0 dB
Cal Records Count:	1		

Interval Records:	Disabled	Number Interval Records:	0
History Records:	Disabled	Number History Records:	0
Run/Stop Records:		Number Run/Stop Records:	2

File Translated: V:\Vista Env\2010\10022-Fresno Walmart\Noise Measurements\LD\15.slm1
 Model/Serial Number: 824 / A3176
 Firmware/Software Revs: 4.283 / 3.120
 Name:
 Descr1: 1021 Didrikson Way
 Descr2: Laguna Beach, CA 92651
 Setup/Setup Descr: slm&rtta.ssa / SLM & Real-Time Analyzer
 Location: 30' N of vendor truck loading area for Fresno Walmart
 Notel: Approx 70' S of Locust Ave CL
 Note2: 52F, 29.57 in Hg, 67% Humid., no wind, clear sky

Overall Any Data

Start Time: 19-May-2011 07:05:53
 Elapsed Time: 00:08:30.5

	A Weight	C Weight	Flat
Leq:	54.8 dBA	65.1 dBC	66.1 dBF
SEL:	81.9 dBA	92.2 dBC	93.2 dBF
Peak:	85.2 dBA	85.8 dBC	86.0 dBF
19-May-2011 07:09:58	19-May-2011 07:09:58	19-May-2011 07:09:52	19-May-2011 07:09:52
Lmax (slow):	67.9 dBA	73.2 dBC	73.8 dBF
19-May-2011 07:09:50	19-May-2011 07:13:57	19-May-2011 07:13:57	19-May-2011 07:13:57
Lmin (slow):	43.7 dBA	60.0 dBC	61.6 dBF
19-May-2011 07:11:17	19-May-2011 07:06:52	19-May-2011 07:06:51	19-May-2011 07:06:51
Lmax (fast):	70.7 dBA	75.5 dBC	75.7 dBF
19-May-2011 07:09:58	19-May-2011 07:11:34	19-May-2011 07:11:34	19-May-2011 07:11:34
Lmin (fast):	43.1 dBA	57.8 dBC	58.9 dBF
19-May-2011 07:11:17	19-May-2011 07:09:10	19-May-2011 07:09:10	19-May-2011 07:09:10
Lmax (impulse):	72.1 dBA	76.8 dBC	77.1 dBF
19-May-2011 07:09:58	19-May-2011 07:11:34	19-May-2011 07:11:34	19-May-2011 07:11:34
Lmin (impulse):	43.6 dBA	61.1 dBC	62.4 dBF
19-May-2011 07:11:17	19-May-2011 07:06:51	19-May-2011 07:06:51	19-May-2011 07:09:10

Spectra

Date 19-May-2011 Time 07:05:53 Run Time 00:08:30.5

Hz	Leq1/3	Leq1/1	Max1/3	Max1/1	Min1/3	Min1/1	Hz	Leq1/3	Leq1/1	Max1/3	Max1/1	Min1/3	Min1/1
12.5	50.2		56.3		35.5		630	46.5		61.4		31.0	
16.0	50.9	55.5	56.1	61.5	37.1	41.8	800	45.4		60.8		30.5	
20.0	51.0		57.6		38.0		1000	44.5	49.3	56.1	63.9	31.7	35.6
25.0	55.8		57.5		41.1		1250	43.5		59.4		30.2	
31.5	57.7	61.6	57.1	63.3	46.2	49.9	1600	42.6		56.3		28.1	
40.0	56.7		60.3		46.3		2000	41.1	46.1	56.4	61.9	24.9	30.4
50.0	56.8		57.9		44.0		2500	40.0		58.4		21.7	
63.0	55.7	61.0	56.5	62.1	45.9	49.1	3150	40.2		60.8		19.4	
80.0	56.2		57.4		42.2		4000	39.5	43.8	58.6	63.4	18.7	24.1
100	55.6		55.1		42.3		5000	36.7		54.4		19.7	
125	54.3	59.2	59.0	63.8	40.7	45.7	6300	32.8		50.2		21.5	
160	52.8		61.0		39.4		8000	30.2	35.2	57.7	58.5	21.2	25.9
200	51.1		57.3		35.5		10000	25.4		41.5		20.5	
250	51.4	55.2	70.6	71.0	34.6	39.0	12500	22.9		32.2		19.4	
315	48.2		58.2		32.0		16000	20.8	26.5	27.4	33.9	19.1	24.4
400	47.0		59.0		30.1		20000	21.2		23.8		20.3	
500	47.0	51.6	64.3	66.9	30.4	35.3							

Ln Start Level: 15 dB
 L1.00 0.0 dBA L50.00 0.0 dBA L95.00 0.0 dBA
 L5.00 0.0 dBA L90.00 0.0 dBA L99.00 0.0 dBA

Detector: Slow
 Weighting: A
 SPL Exceedance Level 1: 85.0 dB Exceeded: 0 times
 SPL Exceedance level 2: 120 dB Exceeded: 0 times
 Peak-1 Exceedance Level: 105 dB Exceeded: 0 times
 Peak-2 Exceedance Level: 100 dB Exceeded: 0 times
 Hysteresis: 2
 Overloaded: 0 time(s)
 Paused: 0 times for 00:00:00.0

File Translated: V:\Vista Env\2010\10022-Fresno Walmart\Noise Measurements\LD\15.slmdl
 Model/Serial Number: 824 / A3176

Current Any Data

Start Time: 19-May-2011 07:05:53
 Elapsed Time: 00:08:30.5

	A Weight	C Weight	Flat
Leq:	54.8 dBA	65.1 dBC	66.1 dBF
SEL:	81.9 dBA	92.2 dBC	93.2 dBF
Peak:	85.2 dBA	85.8 dBC	86.0 dBF
19-May-2011 07:09:58	19-May-2011 07:09:58	19-May-2011 07:09:52	19-May-2011 07:09:52
Lmax (slow):	67.9 dBA	73.2 dBC	73.8 dBF
19-May-2011 07:09:50	19-May-2011 07:13:57	19-May-2011 07:13:57	19-May-2011 07:13:57
Lmin (slow):	43.7 dBA	60.0 dBC	61.6 dBF
19-May-2011 07:11:17	19-May-2011 07:06:52	19-May-2011 07:06:51	19-May-2011 07:06:51
Lmax (fast):	70.7 dBA	75.5 dBC	75.7 dBF
19-May-2011 07:09:58	19-May-2011 07:11:34	19-May-2011 07:11:34	19-May-2011 07:11:34
Lmin (fast):	43.1 dBA	57.8 dBC	58.9 dBF
19-May-2011 07:11:17	19-May-2011 07:09:10	19-May-2011 07:09:10	19-May-2011 07:09:10
Lmax (impulse):	72.1 dBA	76.8 dBC	77.1 dBF
19-May-2011 07:09:58	19-May-2011 07:11:34	19-May-2011 07:11:34	19-May-2011 07:11:34
Lmin (impulse):	43.6 dBA	61.1 dBC	62.4 dBF
19-May-2011 07:11:17	19-May-2011 07:06:51	19-May-2011 07:09:10	19-May-2011 07:09:10

Calibrated:	18-May-2011 13:09:02	Offset:	-48.2 dB
Checked:	19-May-2011 06:46:08	Level:	113.9 dB
Calibrator	not set	Level:	114.0 dB
Cal Records Count:	0		

Interval Records:	Disabled	Number Interval Records:	0
History Records:	Disabled	Number History Records:	0
Run/Stop Records:		Number Run/Stop Records:	2

File Translated: V:\Vista Env\2010\10048-Calistoga Enchanted Resorts\Noise Measurements\Montage Resort\12-4-10.
 Model/Serial Number: 824 / A3176
 Firmware/Software Revs: 4.283 / 3.120
 Name:
 Descr1: 1021 Didrikson Way
 Descr2: Laguna Beach, CA 92651
 Setup/Setup Descr: slm&rtas.ssa / SLM & Real-Time Analyzer
 Location: Mosaic Bar + Grille - Montage Resort Laguna Beach
 Notel: Edge of outdoor dining area during lunch on Saturday
 Note2: 64 F, 29.72 Hg, 57% humid., partly cloudy, no wind

Overall Any Data

Start Time: 04-Dec-2010 12:50:57
 Elapsed Time: 00:47:58.6

	A Weight	C Weight	Flat
Leq:	62.6 dBA	69.1 dBC	70.3 dBF
SEL:	97.2 dBA	103.7 dBC	104.9 dBF
Peak:	115.5 dBA	115.7 dBC	118.2 dBF
04-Dec-2010 13:01:12		04-Dec-2010 12:59:59	04-Dec-2010 12:59:59
Lmax (slow):	85.5 dBA	94.6 dBC	97.9 dBF
04-Dec-2010 13:01:12		04-Dec-2010 12:59:59	04-Dec-2010 12:59:59
Lmin (slow):	49.4 dBA	63.1 dBC	64.2 dBF
04-Dec-2010 13:02:34		04-Dec-2010 13:01:04	04-Dec-2010 13:01:04
Lmax (fast):	93.9 dBA	94.8 dBC	97.9 dBF
04-Dec-2010 13:01:12		04-Dec-2010 12:59:59	04-Dec-2010 12:59:59
Lmin (fast):	46.9 dBA	62.0 dBC	63.0 dBF
04-Dec-2010 13:00:55		04-Dec-2010 13:01:04	04-Dec-2010 13:01:04
Lmax (impulse):	98.3 dBA	97.0 dBC	97.8 dBF
04-Dec-2010 13:01:12		04-Dec-2010 13:01:12	04-Dec-2010 12:59:59
Lmin (impulse):	51.0 dBA	64.1 dBC	65.2 dBF
04-Dec-2010 13:22:52		04-Dec-2010 13:00:59	04-Dec-2010 13:02:33

Spectra

Date: 04-Dec-2010
 Time: 12:59:58
 Run Time: 00:47:48.3

Hz	Leq1/3	Leq1/1	Max1/3	Max1/1	Min1/3	Min1/1	Hz	Leq1/3	Leq1/1	Max1/3	Max1/1	Min1/3	Min1/1
12.5	58.8		55.7		35.6		630	53.1		63.1		33.7	
16.0	59.8	64.4	58.7	61.9	38.3	43.3	800	53.4		69.2		34.7	
20.0	60.2		56.3		40.5		1000	52.1	57.1	76.3	84.4	33.8	38.4
25.0	60.5		60.9		43.0		1250	51.3		83.5		32.0	
31.5	60.6	65.2	60.0	65.0	44.3	49.8	1600	51.4		86.3		29.9	
40.0	60.1		59.8		46.8		2000	50.7	56.2	82.2	90.3	27.8	32.8
50.0	57.6		58.2		45.9		2500	52.2		86.8		24.9	
63.0	59.2	63.8	63.4	66.0	48.3	52.3	3150	50.5		85.2		23.8	
80.0	59.9		60.4		48.0		4000	47.5	53.3	81.5	87.5	22.4	27.3
100	58.0		59.4		46.5		5000	46.4		79.5		20.7	
125	56.9	61.3	58.8	64.7	43.6	49.2	6300	43.6		76.9		18.7	
160	53.5		61.2		42.1		8000	41.8	46.9	72.3	80.2	18.3	23.0
200	53.3		66.8		40.3		10000	40.5		76.0		17.7	
250	56.0	59.5	70.4	73.2	40.4	44.7	12500	37.0		70.2		17.7	
315	54.3		67.0		39.0		16000	33.0	39.0	65.5	71.9	18.6	23.8
400	54.5		63.3		36.6		20000	29.4		61.8		20.3	
500	53.6	58.5	64.8	68.6	35.9	40.3							

Ln Start Level: 15 dB
 L1.00 0.0 dBA L50.00 0.0 dBA L95.00 0.0 dBA
 L5.00 0.0 dBA L90.00 0.0 dBA L99.00 0.0 dBA

Detector: Slow
 Weighting: A
 SPL Exceedance Level 1: 85.0 dB Exceeded: 1 times
 SPL Exceedance level 2: 120 dB Exceeded: 0 times
 Peak-1 Exceedance Level: 105 dB Exceeded: 7 times
 Peak-2 Exceedance Level: 100 dB Exceeded: 10 times
 Hysteresis: 2
 Overloaded: 0 time(s)
 Paused: 0 times for 00:00:00.0

File Translated: V:\Vista Env\2010\10048-Calistoga Enchanted Resorts\Noise Measurements\Montage Resort\12-4-10.slm1
 Model/Serial Number: 824 / A3176

Current Any Data

Start Time: 04-Dec-2010 12:59:58
 Elapsed Time: 00:47:48.3

	A Weight	C Weight	Flat
Leq:	62.6 dBA	69.1 dBC	70.3 dBF
SEL:	97.2 dBA	103.7 dBC	104.9 dBF
Peak:	115.5 dBA	115.7 dBC	118.2 dBF
04-Dec-2010 13:01:12		04-Dec-2010 12:59:59	04-Dec-2010 12:59:59
Lmax (slow):	85.5 dBA	94.6 dBC	97.9 dBF
04-Dec-2010 13:01:12		04-Dec-2010 12:59:59	04-Dec-2010 12:59:59
Lmin (slow):	49.4 dBA	63.1 dBC	64.2 dBF
04-Dec-2010 13:02:34		04-Dec-2010 13:01:04	04-Dec-2010 13:01:04
Lmax (fast):	93.9 dBA	94.8 dBC	97.9 dBF
04-Dec-2010 13:01:12		04-Dec-2010 12:59:59	04-Dec-2010 12:59:59
Lmin (fast):	46.9 dBA	62.0 dBC	63.0 dBF
04-Dec-2010 13:00:55		04-Dec-2010 13:01:04	04-Dec-2010 13:01:04
Lmax (impulse):	98.3 dBA	97.0 dBC	97.8 dBF
04-Dec-2010 13:01:12		04-Dec-2010 13:01:12	04-Dec-2010 12:59:59
Lmin (impulse):	51.0 dBA	64.1 dBC	65.2 dBF
04-Dec-2010 13:22:52		04-Dec-2010 13:00:59	04-Dec-2010 13:02:33

Calibrated:	04-Dec-2010 12:50:12	Offset:	-47.9 dB
Checked:	04-Dec-2010 12:50:12	Level:	92.7 dB
Calibrator	not set	Level:	114.0 dB
Cal Records Count:	2		

Interval Records:	Disabled	Number Interval Records:	0
History Records:	Disabled	Number History Records:	0
Run/Stop Records:		Number Run/Stop Records:	4

Summary

File Name 831_Data.002
Serial Number 0002509
Model Model 831
Firmware Version 2.301
User GT
Location At 7080 Mayten Ave - Edge of MFR Parking Lot
Job Description Mayten & Foothill
Note
Measurement Description
Start 2015-09-10 15:54:09
Stop 2015-09-10 16:10:10
Duration 0:16:00.5
Run Time 0:16:00.5
Pause 0:00:00.0

Pre Calibration 2015-09-10 15:32:49
Post Calibration None
Calibration Deviation ---

Overall Settings

RMS Weight A Weighting
Peak Weight A Weighting
Detector Slow
Preamp PRM831
Microphone Correction Off
Integration Method Linear
OBA Range High
OBA Bandwidth 1/1 and 1/3
OBA Freq. Weighting Z Weighting
OBA Max Spectrum Bin Max
Gain 0.0 dB
Overload 143.1 dB

	A	C	Z
Under Range Peak	75.6	72.6	77.6 dB
Under Range Limit	26.1	26.4	31.8 dB
Noise Floor	17.0	17.3	22.5 dB

Results

LAeq 52.1 dB
LAE 81.9 dB
EA 17.242 $\mu\text{Pa}^2\text{h}$
LApeak (max) 2015-09-10 16:03:36 98.6 dB
LASmax 2015-09-10 16:03:36 74.6 dB
LASmin 2015-09-10 15:54:57 41.3 dB
SEA -99.9 dB

LAS > 65.0 dB (Exceedance Counts / Duration) 6 11.6 s

LAS > 85.0 dB (Exceedance Counts / Duration)	0	0.0 s
LApeak > 135.0 dB (Exceedance Counts / Duration)	0	0.0 s
LApeak > 137.0 dB (Exceedance Counts / Duration)	0	0.0 s
LApeak > 140.0 dB (Exceedance Counts / Duration)	0	0.0 s

Community Noise	Ldn'	:00-23:00	:3:00-07:00	Lden
	52.1	52.1	-99.9	52.1
LCeq	65.0 dB			
LAeq	52.1 dB			
LCeq - LAeq	12.9 dB			
LAlaq	61.6 dB			
LAeq	52.1 dB			
LAlaq - LAeq	9.5 dB			
# Overloads	0			
Overload Duration	0.0 s			
# OBA Overloads	0			
OBA Overload Duration	0.0 s			

Statistics	
LAS5.00	55.0 dB
LAS10.00	53.4 dB
LAS33.30	49.1 dB
LAS50.00	47.1 dB
LAS66.60	45.8 dB
LAS90.00	43.9 dB

Calibration History			
Preamp		Date re. 1V/Pa	6.3
PRM831	2015-09-10 15:32:49	-25.6	73.9
PRM831	2015-08-14 17:54:36	-26.3	36.4
PRM831	2015-08-05 20:29:18	-24.7	64.2
PRM831	2015-07-24 14:47:10	-25.6	60.9
PRM831	2015-05-05 14:56:20	-25.8	61.2
PRM831	2015-04-22 8:42:55	-26.3	58.2
PRM831	2015-04-17 11:29:03	-26.3	21.3
PRM831	2015-04-17 9:59:48	-26.0	30.6
PRM831	2015-04-17 8:00:28	-26.0	9.4
PRM831	2061-08-11 15:40:00	-26.0	44.2
PRM831	2014-10-15 14:30:38	-26.0	72.4

APPENDIX E

Existing and Proposed Sound Wall Noise Reduction Calculations

Stationary Noise Calculations - Single-Family Homes West of Project Site

Stationary Noise Sources	Reference			School Adjacent to Project Site		
	Distance Leq	Reference Distance	Leq	Distance Leq	Reference Distance	Leq
Rooftop HVAC	10	66.6	270	31	1.5 (Line Source: hard=0, soft=.5; Point Source: hard=1, soft=1.5)	44
Dog Park	10	60.2	45	44		49
Tot Lot	5	66.6	25	27		28
Pool and Spa	15	66.6	550	28		5
Truck Delivery	30	54.8	350	5		33
Outdoor Dining	5	62.6	1040			
Parking Lot	5	52.1	30			

Stationary Noise Sources	Distance from Receptor to Wall	Distance from source to Wall	Without Wall		With Wall		Exterior Observer Height (feet)	Source Height (feet)	Frequency (hz)	Barrier to receiver - b (all)	Barrier to receiver - a	Source to receiver - c	Path difference y = a+b-c (auto)	Line of sight (slope)	Barrier
			Height of Wall (feet)	Level at Property	Noise Level at Property	Noise Level at Property									
Rooftop HVAC	270	5	4	31	11	48	5	800	270.0019	44.2832	278.3415	35.9435	1	102.239	Barrier
Dog Park	5	45	6	44	36	3	5	800	5.0990	45.0999	50.03998	0.1589	1	0.45205	Atten
Tot Lot	5	25	6	49	41	5	5	800	5.0990	25.02	30	0.1190	1	0.33852	-7.65
Pool and Spa	5	550	6	27	20	5	5	800	5.0990	550.001	555	0.0999	1	0.28424	-7.36
Truck Delivery	5	350	6	28	21	5	5	800	5.0990	350.001	355	0.1004	1	0.28572	-7.36
Outdoor Dining	5	1040	6	5	-3	5	5	800	5.0990	1040	1045	0.0995	1	0.28302	-7.36
Parking Lot	5	30	6	33	25	5	5	800	5.0990	30.0167	35	0.1157	1	0.32905	-7.6

Combined Noise Levels 50 43

Stationary Noise Calculations - Mobile Homes South of Project Site

Stationary Noise Sources	Reference Distance Leq	Reference School Adjacent to Project Site Distance Leq	1.5 (Line Source: hard=0, soft=.5; Point Source: hard=1, soft=1.5)
Rooftop HVAC	10	66.6	80
Dog Park	10	60.2	55
Tot Lot	5	66.6	355
Pool and Spa	15	66.6	300
Truck Delivery	30	54.8	100
Outdoor Dining	5	62.6	260
Parking Lot	5	52.1	5

Stationary Noise Sources	Distance from Receptor to Wall	Distance from source to Wall	Height of Wall (feet)	Without Wall Noise		With Wall Noise Level at Property		Exterior Observer Height (feet)	Source Frequency (hz)	Barrier to receiver - b (all)	Barrier - a	Source to receiver - c	Path difference y = a+b-c (auto)	Line of sight (slope)	Barrier Atten
				Level at Property	Level at Property	Noise at Property	Noise Level at Property								
Rooftop HVAC	80	5	5	4	44	25	48	5	800	80.0062	44.2832	95.25755	29.0319	1	82.5796
Dog Park	5	55	6	6	42	34	3	5	800	5.0990	55.0818	60.03332	0.1475	1	0.41942
Tot Lot	5	355	6	20	13	5	5	5	800	5.0990	355.001	360	0.1004	1	0.285666
Pool and Spa	5	300	6	34	27	5	5	5	800	5.0990	300.002	305	0.1007	1	0.2864
Truck Delivery	5	100	6	42	34	5	5	5	800	5.0990	100.005	105	0.1040	1	0.29588
Outdoor Dining	5	260	6	20	12	5	5	5	800	5.0990	260.002	265	0.1009	1	0.28713
Parking Lot	5	5	6	52	43	5	5	5	800	5.0990	5.09902	10	0.1980	1	0.56331

Combined Noise Levels 53 44

Stationary Noise Calculations - Proposed Residential Apartment Units

Stationary Noise Sources	Reference Distance Leq	Reference School Adjacent to Project Site Distance Leq	1.5 (Line Source: hard=0, soft=.5; Point Source: hard=1, soft=1.5)
Rooftop HVAC	10	66.6	20
Dog Park	10	60.2	220
Tot Lot	5	66.6	220
Pool and Spa	15	66.6	50
Truck Delivery	30	54.8	50
Outdoor Dining	5	62.6	340
Parking Lot	5	52.1	25

Stationary Noise Sources	Distance from Receptor to Wall	Distance from source to Wall	Without Wall		With Wall		Exterior Observer Height (feet)	Source Height (feet)	Frequency y (hz)	Source	barrier to receiver - b (all)	source to barrier - a	source to receiver - c	path difference y = a+b-c (auto)	line of sight (slope)	Barrier
			Height of Wall (feet)	Level at Property	Noise Level at Property	Noise Level at Property										
Rooftop HVAC	20	5	4	59	40	48	5	800	20.0250	44.2832	49.73932	14.5688	1	41.4403	-19.029	
Dog Park	5	220	6	27	19	3	5	800	5.0990	220.02	225.0089	0.1106	1	0.31455	-7.55	
Tot Lot	5	220	6	26	18	5	5	800	5.0990	220.002	225	0.1013	1	0.28812	-7.36	
Pool and Spa	5	50	0	54	54	5	5	800	7.0711	50.2494	55	2.3204	-1	-6.6004	0	
Truck Delivery	5	50	6	49	42	5	5	800	5.0990	50.01	55	0.1090	1	0.3101	-7.55	
Outdoor Dining	5	340	6	17	9	5	5	800	5.0990	340.001	345	0.1005	1	0.28584	-7.36	
Parking Lot	5	25	6	35	27	5	5	800	5.0990	25.02	30	0.1190	1	0.33852	-7.65	

Combined Noise Levels 60 54