KUNZMAN ASSOCIATES, INC.

ALABAMA VENTURE 1 PROJECT

NOISE IMPACT ANALYSIS (REVISED)

June 12, 2014

Traffic Engineering | Transportation Planning | Parking | Noise/Vibration | Expert Witness
Air Quality | Global Climate Change | Health Risk Assessment

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I. Introduction and Setting

This report was prepared for the Alabama Venture 1 Project located at the northwest corner of the Alabama Street and Almond Avenue intersection in an unincorporated portion of the County of San Bernardino. A vicinity map showing the project location is provided on Figure 1. The project site is proposed to be developed with a 313,470 square foot high-cube warehouse distribution center on a 14.81 acre project site. Figure 2 illustrates the project site plan.

This noise impact analysis contains documentation of existing noise levels as well as analysis of the impacts generated by project operation and traffic. Each of these topics is contained in a separate section of the report. In this way, information on any particular aspect of the study can be easily located by the reader.

Although this is a technical report, every effort has been made to write the report clearly and concisely. To assist the reader with terms unique to acoustics, a definition of terms has been provided in Section II.

A. Purpose and Objectives

This study was performed to address the possibility of significant impacts due to noise. The objectives of the study include:

- documentation of existing noise conditions
- discussion of noise modeling methodology and procedures
- analysis of noise and vibration generated by the construction of the project
- analysis of noise and vibration generated by the typical operation of the project
- analysis of project generated noise that may affect nearby sensitive receptors
- recommendations for mitigation measures

B. Project Location

The project site is located at the northwest corner of the Alabama Street and Almond Avenue intersection in an unincorporated portion of the County of San Bernardino. A vicinity map showing the project location is provided on Figure 1.

C. Project Description

The project site is proposed to be developed with a 313,470 square foot high-cube warehouse distribution center on a 14.81 acre project site. Figure 2 illustrates the project site plan.

Figure 1
Project Location Map

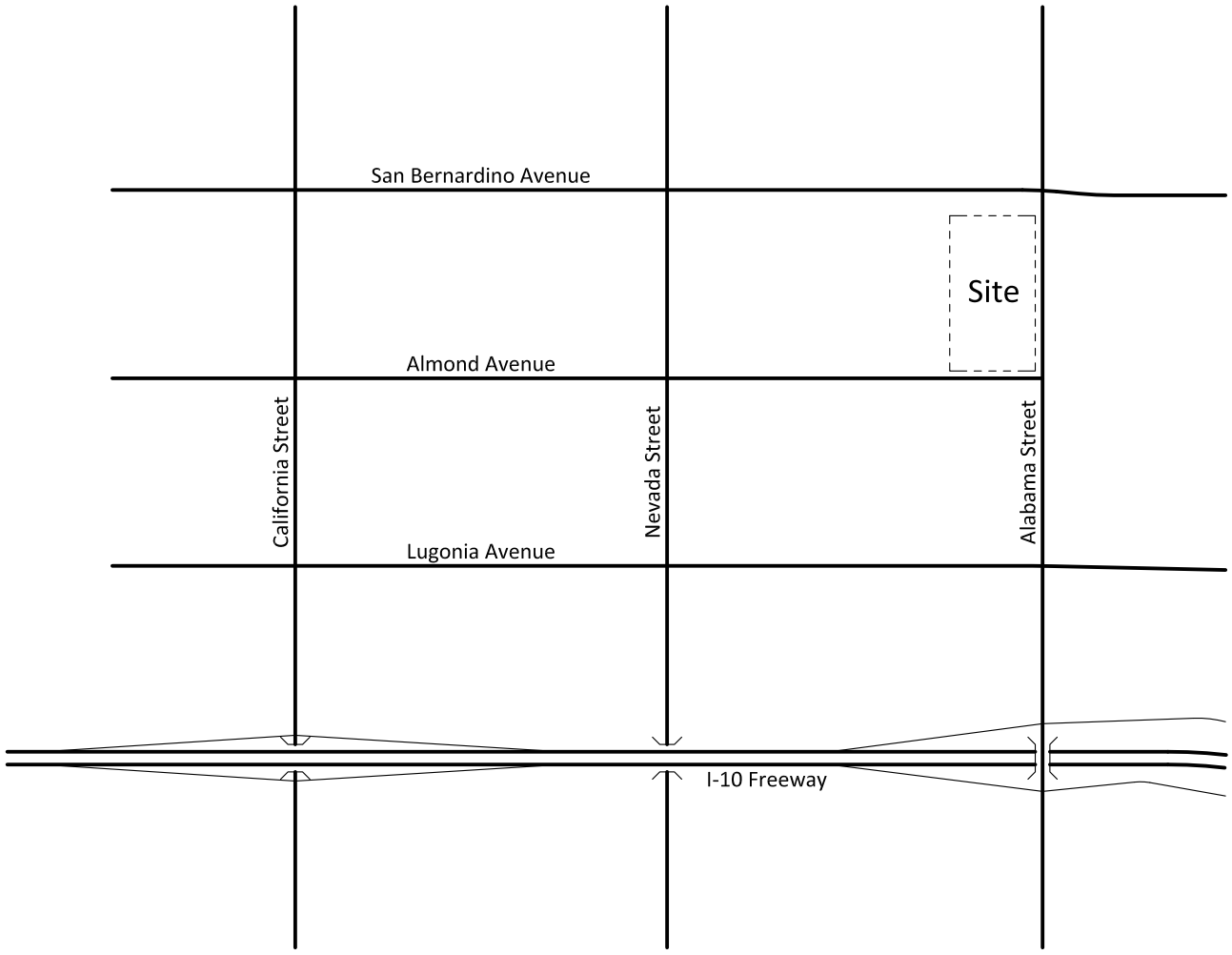

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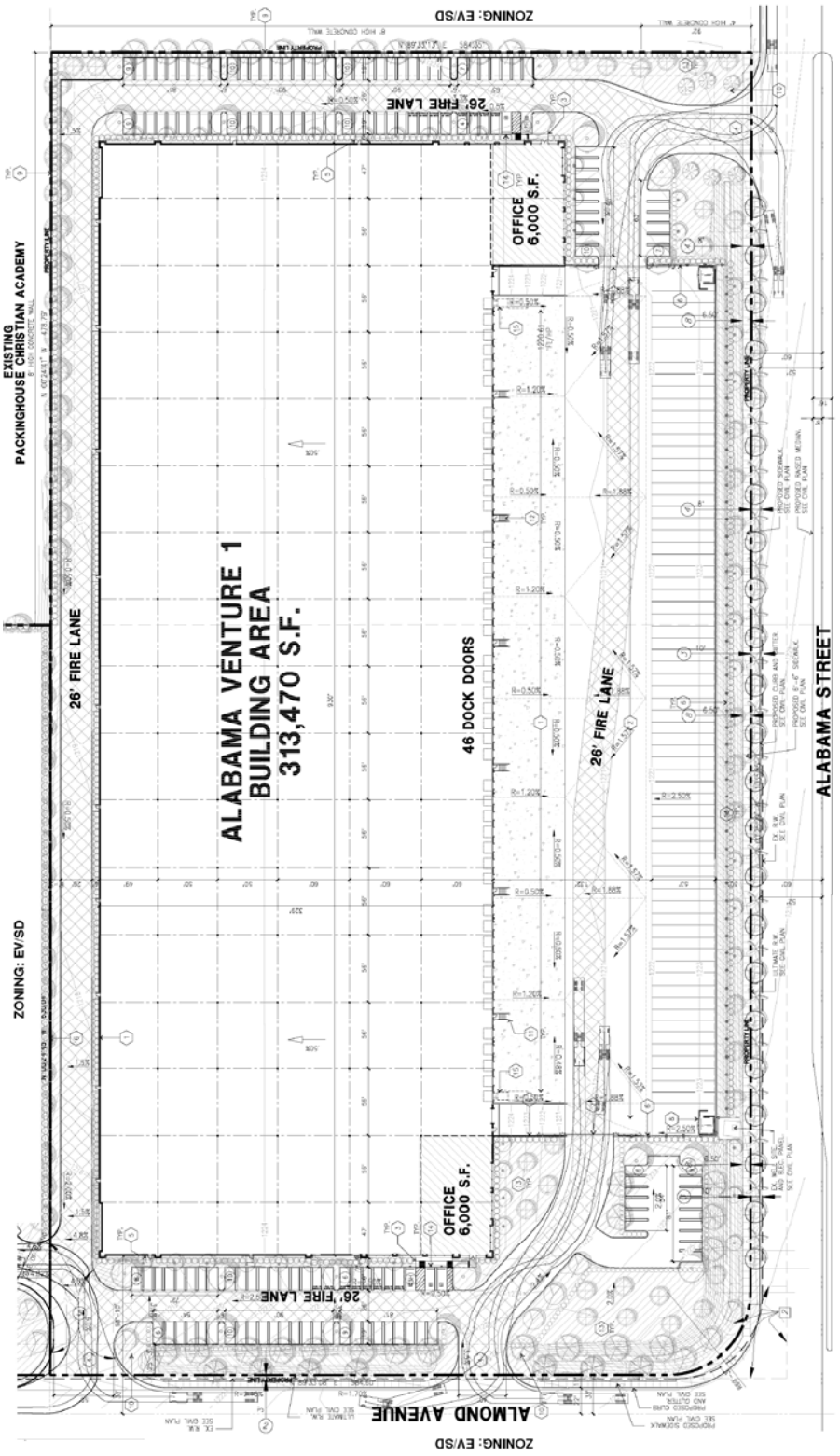
Figure 2
Site Plan



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II. Noise and Vibration Fundamentals

A. Noise Fundamentals

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

Commonly used noise terms are presented in Table 1. The unit of measurement used to describe a noise level is the decibel (dB). The human ear is not equally sensitive to all frequencies within the sound spectrum. Therefore, the "A-weighted" noise scale, which weights the frequencies to which humans are sensitive, is used for measurements. Noise levels using A-weighted measurements are written dB(A) or dBA.

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

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

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

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

B. Vibration Fundamentals

Ground-borne vibration can be a serious concern for nearby neighbors of a transit system route or maintenance facility, causing buildings to shake and rumbling sounds to be heard. In contrast to airborne noise, ground-borne vibration is not a common environmental problem. It is unusual for vibration from sources such as buses and trucks to be perceptible,

even in locations close to major roads. Some common sources of ground-borne vibration are trains, buses on rough roads, and construction activities such as blasting, pile-driving and operating heavy earth-moving equipment.

The effects of ground-borne vibration include noticeable movement of the building floors, rattling of windows, shaking of items on shelves or hanging on walls, and rumbling sounds. In extreme cases, the vibration can cause damage to buildings. Building damage is not a factor for normal transportation projects, with the occasional exception of blasting and pile-driving during construction. Annoyance from vibration often occurs when the vibration exceeds the threshold of perception by only a small margin. A vibration level that causes annoyance will be well below the damage threshold for normal buildings.

Several different methods 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. Because of 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 the particle velocity level (L_V) or sound velocity level (SVL) is based on the reference quantity of 1 micro-inch per second. The L_V should not be confused with the speed of sound. The peak particle velocity (PPV) descriptor is often used in reference to the vibration related to blasting and the VdB descriptor is most commonly used to describe human annoyance related to vibration.

The rumbling sound caused by the vibration of room surfaces is called ground-borne noise. The annoyance potential of ground-borne noise is usually characterized with the A-weighted sound level, expressed in VdB.

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.

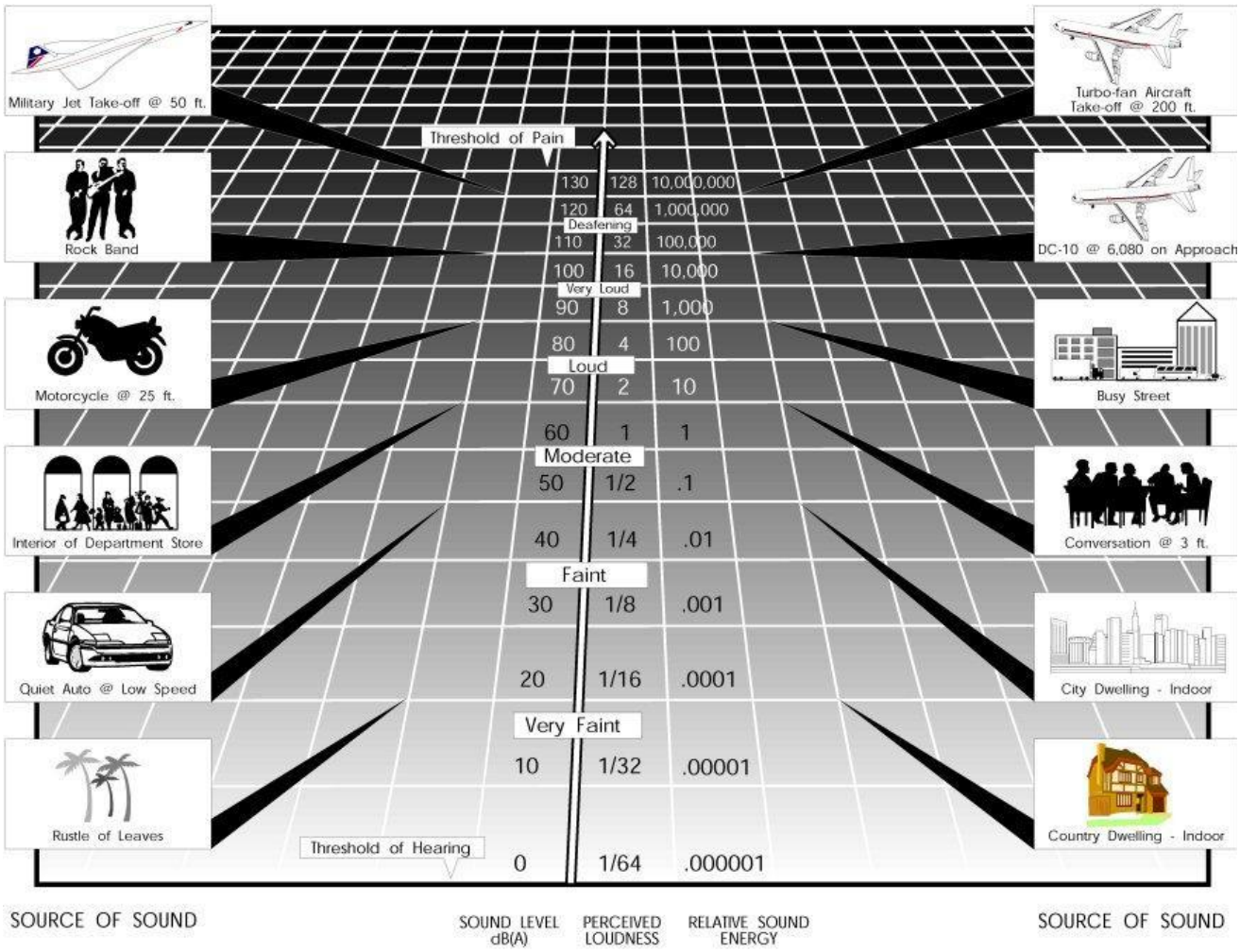
Table 1

Definitions of Acoustical Terms[1]

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

[1] Adapted from: Cyril M. Harris; Handbook of Acoustical Measurement and Noise Control, 1991.

Figure 3
Common Noise Sources and Noise Levels



Source: County of Riverside General Plan Noise Element

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III. Existing Noise Environment

A. Sensitive Noise Receptors

Noise-sensitive land uses are defined in San Bernardino County Code Section 83.01.080 as residential uses, schools, hospitals, nursing homes, religious institutions, libraries, and similar uses. Sensitive receptors most likely to be affected by the project include the church and school facilities located north and northwest of the project site.

B. Ambient Noise Measurements

An American National Standards Institute (ANSI Section SI4 1979, Type 1) Larson Davis model LxT sound level meter was used to document existing ambient noise levels. Two 15-minute daytime noise measurements were taken between 6:46 PM and 7:41 PM on July 17, 2013. Measurement locations are shown on Figure 4. Ambient noise levels are presented in Table 2 and measurement output data is included within Appendix A.

The first noise measurement (NM1) was taken at the northern end of the project site, just south of the adjacent eastern school building. The noise environment at this location was dominated by vehicular traffic on Alabama Street. Secondary sources included the conversation of people walking the school campus, faint music from the school, wind, and one aircraft overflight. This measurement recorded a L_{eq} of 56.7 dBA and a L_{max} of 72.6.

The second noise measurement (NM2) was taken approximately 750 feet west of the project site at the eastern edge of the ball fields adjacent to the church parking lot. The main noise sources at this location were traffic on San Bernardino Avenue and wind. Traffic on Almond Avenue and Alabama Street were audible, as were vehicles in the parking lot of the adjacent church/school. This measurement recorded a L_{eq} of 54.9 dBA and a L_{max} of 70.7.

Table 2

Ambient Noise Levels[1]

Name	Time	Measurement Period	Description	Existing Ambient Noise Levels (dBA)					
				L_{eq}	L_{max}	L_2	L_8	L_{25}	L_{50}
NM1	6:46 PM - 7:01 PM	15 min	50 feet south of existing school building, 250 feet west of Alabama Street	56.7	72.6	67.2	60.1	54.5	51.9
NM2	7:26 PM - 7:41 PM	15 min	120 feet north of property line, 25 feet west of church parking lot	54.9	70.7	63.1	59.8	56.7	53.6

[1] Source: Site Visit, Kunzman Associates, Inc. (July 17, 2013).

Figure 4
Noise Measurement Locations

Legend

⊗ = Noise Measurement Location

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IV. Analytical Methodology and Model Parameters

A. Noise Modeling and Input

1. Federal Highway Administration (FHWA) Traffic Noise Prediction Model

Existing and Existing Plus Project noise levels along acoustically significant area roadways and were modeled utilizing the FHWA Traffic Noise Prediction Model - FHWA-RD-77-108. This 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 REMEL to account for: total average daily trips (ADT), roadway classification, width, speed and truck mix, roadway grade and site conditions (hard or soft ground surface). Surfaces adjacent to all modeled roadways were assumed to have a "hard site" to predict worst-case, conservative noise levels. A hard site, such as pavement, is highly reflective and does not attenuate noise as quickly as grass or other soft sites. Possible reductions in noise levels due to intervening topography and vegetation were not accounted for in the analysis.

Project traffic volumes and vehicle mix were obtained from the project's traffic study (Kunzman Associates, Inc., 2014). Existing Plus Project mixes were calculated by adding the proposed project trips to existing conditions. The County of San Bernardino does not have a Day/Evening/Night (D/E/N) split published for use in acoustical studies. For existing conditions, road segments were assigned D/E/N splits recommended by the Riverside County Department of Industrial Hygiene for noise modeling. Roadway Modeling Parameters are included in Table 3.

2. Road Construction Noise Model (RCNM)

A worst-case construction noise scenario was modeled using the Federal Highway Administration's Roadway Construction Noise Model (RCNM). Modeling parameters and output are provided in Appendix B. RCNM utilizes standard noise emission levels for many different types of equipment and includes utilization percentage, impact, and shielding parameters.

3. SoundPLAN

The SoundPLAN noise modeling software was utilized to model noise associated with the operation of the proposed project. This model represents a worst-case operational noise scenario. The noise levels and frequency profiles for several sources typical to distribution centers were obtained from a previous noise survey completed by Kunzman Associates, Inc. and entered into the model. These sources included a truck backup alarm, truck/trailer disconnect, trailer being dropped, truck idling, truck accelerating, and conveyor belts. The noise level resulting from the typical operation of all these sources was then calculated at several sensitive receptor locations. Figures showing the results of the operational noise model are provided in Section VI.

V. Applicable Standards

A. County of San Bernardino General Plan

The County of San Bernardino General Plan Noise Element provides goals, policies and implementation measures that are intended to achieve and maintain land use compatibility with environmental noise levels and to ensure that County residents will be protected from excessive noise intrusion, both now and in the future. Goals and Policies applicable to the proposed project are presented below.

Goal N 1. The County will abate and avoid excessive noise exposures through noise mitigation measures incorporated into the design of new noise generating and new noise sensitive land uses, while protecting areas within the County where the present noise environment is within acceptable limits.

Policy N 1.5. Limit truck traffic in residential and commercial areas to designated truck routes; limit construction, delivery, and through-truck traffic to designated routes; and distribute maps of approved truck routes to County traffic officers.

Policy N 1.6. Enforce the hourly noise-level performance standards for stationary and other locally regulated sources, such as industrial, recreational, and construction activities as well as mechanical and electrical equipment.

Policy N 1.7. Prevent incompatible land uses, by reason of excessive noise levels, from occurring in the future.

Goal N 2. The County will strive to preserve and maintain the quiet environment of mountain, desert and other rural areas.

Policy N 2.1. The County will require appropriate and feasible on-site noise attenuating measures that may include noise walls, enclosure of noise generating equipment, site planning to locate noise sources away from sensitive receptors, and other comparable features.

B. County of San Bernardino Development Code

Section 83.01.080 of the County of San Bernardino Development Code establishes standards concerning acceptable noise levels for both noise sensitive land uses and for noise generating land uses. Sections of the code applicable to the proposed project are presented below.

Noise Standards for Stationary Noise Sources

Noise level limits for Stationary Sources, as they affect adjacent properties (Section 83.01.080(c)(1) of San Bernardino County Code) are presented in Table 4. However, because the land uses that may be affected by the proposed project are not included in

Table 4, the interior noise level limit presented in Table 5 (a 12-Hour Equivalent level of 45 dBA L_{dn}) for educational, institutions, libraries and meeting facilities applies to the proposed project.

Section 83.01.080 of the ordinance also sets forth a maximum interior noise level of 65 dBA as an average of the loudest of intrusive sounds occurring during a 24-hour period.

Standards from Adjacent Mobile Noise Sources

The County of San Bernardino Development Code also sets forth standards for noise generated by mobile sources on adjacent properties. Mobile noise sources on adjacent properties are not to exceed the standards described in Table 5.

Construction Noise

Temporary construction, maintenance, repair, and demolition activities between 7:00 AM and 7:00 PM, except Sundays and Federal holidays are exempt from Section 83.01.080(g)(3) the San Bernardino Development Code.

Ground Vibration

Section 83.01.090(a) of the County of San Bernardino Development Code prohibits the creation of ground vibration that can be felt without the aid of instruments at or beyond the lot-line, nor shall any vibration be allowed which produces a particle velocity greater than or equal to two-tenths (0.2) inches per second measured at or beyond the lot-line.

(c) Exempt vibrations. The following sources of vibration shall be exempt from the regulations of this Section.

(2) Temporary construction, maintenance, repair, or demolition activities between 7:00 AM and 7:00 PM, except Sundays and Federal holidays.

C. Increases in Ambient Noise Levels

The California Environmental Quality Act Guidelines (Appendix G) establishes thresholds for noise impact analysis. Two of these standards apply to what is referred to as a "substantial increase" in ambient noise levels. The County of San Bernardino does not have a definition of a substantial increase, nor does CEQA establish a numerical value for this threshold. Noise generated by transportation sources propagates differently than noise generated by point sources. Therefore, for purposes of this analysis, the following two thresholds were utilized to evaluate the project's potential to result in substantial increases in ambient noise levels.

Traffic Noise

Roadway noise impacts would be considered significant if the project increases noise levels for a noise sensitive land use by 3 dBA CNEL and if: (1) the existing noise levels already exceed the standard appropriate for the receiving land use (60 dBA CNEL for residential and

65 dBA CNEL for churches and schools), or (2) the project increases noise levels from below the standard appropriate for the receiving land use to above that standard.

Stationary Noise

Project operations, including noise from trucks, may produce an increase noise levels which disturbs the peace and quiet of adjacent residential areas or cause discomfort/annoyance to area residents. Caltrans considers a 5 dBA increase to be "readily audible", which seems to correlate most closely to "substantial increase." For the purposes of this report, a substantial increase in noise levels due to stationary noise sources shall be considered 5 dBA L_{eq}.

Table 3

Roadway Modeling Parameters

Roadway	Segment	Vehicle Speed (mph)	Existing Vehicle Mix[1] (%)		
			Autos	Medium Trucks	Heavy Trucks
Alabama Street	North of San Bernardino Avenue	50	92.00	3.00	5.00
	San Bernardino Avenue to Almond Avenue	50	92.00	3.00	5.00
	Lugonia Avenue to I-10 Freeway	40	92.00	3.00	5.00
	South of I-10 Freeway	40	92.00	3.00	5.00
Almond Avenue	SW Project Access to SE Project Access	35	92.00	3.00	5.00
California Street	South of I-10 Freeway	40	92.00	3.00	5.00
I-10 Freeway	West of California Street	65	88.00	4.84	7.16
	Nevada Street to Alabama Street	65	88.00	4.84	7.16
	East of Alabama Street	65	88.00	4.84	7.16
Lugonia Avenue	East of Alabama Street	40	92.00	3.00	5.00
Nevada Street	South of Lugonia Avenue	40	92.00	3.00	5.00
San Bernardino Avenue	Nevada Street to Alabama Street	45	92.00	3.00	5.00
	East of Alabama Street	50	92.00	3.00	5.00

[1] Mix was obtained from Riverside County Department of Industrial Hygiene.

Table 4

Noise Standards for Stationary Noise Sources (Development Code Table 83-2)[1]

Affected Land Uses (Receiving Noise)	7:00 AM to 10:00 PM dBA L_{eq}	10:00 PM to 7:00 AM dBA L_{eq}
Residential	55	45
Professional Services	55	55
Other Commercial	60	60
Industrial	70	70

Noise limit categories. No person shall operate or cause to be operated a source of sound at a location or allow the creation of noise on property owned, leased, occupied, or otherwise controlled by the person, which causes the noise level, when measured on another property, either incorporated or unincorporated, to exceed any one of the following:

(A) The noise standard for the receiving land use as specified in Subsection B (Noise-impacted areas), above, for a cumulative period of more than 30 minutes in any hour.

(B) The noise standard plus 5 dB(A) for a cumulative period of more than 15 minutes in any hour.

(C) The noise standard plus 10 dB(A) for a cumulative period of more than five minutes in any hour.

(D) The noise standard plus 15 dB(A) for a cumulative period of more than one minute in any hour.

(E) The noise standard plus 20 dB(A) for any period of time.

If the measured ambient level exceeds any of the first four noise limit categories, the allowable noise exposure standard shall be increased to reflect the ambient noise level. If the ambient noise level exceeds the fifth noise limit category, the maximum allowable noise level under this category shall be increased to reflect the maximum ambient noise level.

[1] Source: County of San Bernardino Development Code

Table 5

Noise Standards for Mobile Noise Sources (Development Code Table 83-3)[1]

Land Use		L_{dn} (or CNEL) dB(A)	
Categories	Uses	Interior[2]	Exterior[3]
Residential	Single and multi-family, duplex, mobile homes	45	60[4]
Commercial	Hotel, motel, transient housing	45	60[4]
	Commercial retail, bank, restaurant	50	n/a
	Office building, research and development, professional offices	45	65
	Amphitheater, concert hall, auditorium, movie theater	45	n/a
Institutional/Public	Hospital, nursing home, school classroom, religious institution, library	45	65
Open Space	Park	n/a	65

[1] Source: County of San Bernardino Development Code.

[2] The indoor environment shall exclude bathrooms, kitchens, toilets, closets and corridors.

[3] The outdoor environment shall be limited to:

Hospital/office building patios
Hotel and motel recreation areas
Mobile home parks
Multi-family private patios or balconies
Park picnic areas
Private yard of single-family dwellings
School playgrounds

[4] An exterior noise level of up to 65 dB(A) (or CNEL) shall be allowed provided exterior noise levels have been substantially mitigated through a reasonable application of the best available noise reduction technology, and interior noise exposure does not exceed 45 dB(A) (or CNEL) with windows and doors closed. Requiring that windows and doors remain closed to achieve an acceptable interior noise level shall necessitate the use of air conditioning or mechanical ventilation.

VI. Findings

A. Construction Noise Impacts

1. Construction Noise

Construction noise varies depending on the construction process, type of equipment involved, location of the construction site with respect to sensitive receptors, the schedule proposed to carry out each task (e.g., hours and days of the week) and the duration of the construction work. The initial phase of construction would involve mass grading of the site, along with site development activities, including construction of internal roadways which involves fine grading, trenching, and paving activities. Following site preparation activities, the project would include construction of buildings. Construction of the buildings would require the following phases: site development (fine grading, trenching, and paving), building construction, architectural coatings application, and paving associated with buildings.

Mass site grading is expected to produce the highest construction noise levels. Grading of the site is estimated to require a grader, backhoe, dozer, excavator, and water truck. Typical noise sources and noise levels associated with the site grading phase of construction are shown in Table 6.

A drop-off rate of 6 dBA per doubling of distance from the construction noise sources was utilized to calculate noise levels at nearby sensitive receptors associated with a worst-case construction scenario. These levels were calculated utilizing the Road Construction Noise Model (RCNM) provided by the FHWA. Unmitigated noise levels could reach 78.3 dBA L_{eq} at 100 feet, which is the closest range that multiple pieces of construction equipment are likely to be operating simultaneously. The grading would also result in a maximum noise level of up to 91.0 dBA L_{max} at 25 feet, which is the closest the loudest piece of equipment (a grader) could get to the nearest sensitive receptor. Noise levels will lower when construction moves away from the property line. At 100 feet, the maximum noise level would be 79.0 dBA L_{max}, at 250 feet the maximum noise level would be 71.0 dBA L_{max}, and at 500 feet the maximum noise level would be 65.0 dBA L_{max}. Construction noise levels will result in substantial temporary increases in day-time noise levels.

2. Consistency with Applicable Standards

County of San Bernardino General Plan

Policy N 1.6. *Enforce the hourly noise-level performance standards for stationary and other locally regulated sources, such as industrial, recreational, and construction activities as well as mechanical and electrical equipment.*

Construction activities are regulated under the County's Development Code.

San Bernardino Development Code

Temporary construction, maintenance, repair, and demolition activities between 7:00 AM and 7:00 PM, except Sundays and Federal holidays are exempt from Section 83.01.080(g)(3) the San Bernardino Development Code.

Summary of Construction Related Noise Impacts. Limiting project construction to the hours in which construction activities are exempt from the County of San Bernardino's noise ordinance as well as implementing all construction mitigation will minimize construction noise impacts at nearby sensitive receptors. Mitigation Measures are presented in Section VII of this report.

B. On-Site Operational Noise Impacts

1. On-Site Operational Noise

Noise representative of the proposed project was previously measured at an existing distribution facility in the City of Rialto. This data was input into the SoundPLAN noise model to predict on-site operational noise levels associated with the proposed project and to determine if it is likely to exceed the applicable County of San Bernardino standards or result in substantial increases in the ambient noise level.

For the purposes of this report, the proposed facility was assumed to be operational seven days a week, 24-hours per day. Dominant sources of noise will include back-up alarms, trucks entering and leaving the property, loading and unloading activities, truck activity in the yard including the dropping and removing of trailers, and trailers being maneuvered by a switcher tractor (sometimes referred to as a “yard dog” or “yard horse”).

The project will also include areas for employee and visitor parking. Typical noises that may be generated by the proposed parking lot include landscaping maintenance, conversations and/or yelling in parking lots, vehicle doors closing, and car alarms. Activities that typically occur in parking lots can generate noise levels between 49 dBA (tire squeals) and 74 dBA (car alarms) at 50 feet. Because this is a private, almost entirely employee parking lot, these types of noises are not expected to occur as often as they would in a retail parking lot.

As shown on Figure 5, unmitigated operational noise levels at nearby sensitive receptors are expected to reach up to 61.1 dBA L_{eq} during the day and 60.3 dBA CNEL over a 24 hour period. Operational noise would not result in an increase of 5 dBA or greater over the current ambient noise level of 56.7 dBA L_{eq}. Daytime operational noise level contours are shown on Figure 6. 24 hour operational noise level contours are shown on Figure 7.

2. Consistency with Applicable Standards

County of San Bernardino General Plan Noise Element

Goal N 1. *The County will abate and avoid excessive noise exposures through noise mitigation measures incorporated into the design of new noise generating and new noise sensitive land uses, while protecting areas within the County where the present noise environment is within acceptable limits.*

Site design included consideration of noise impacts from the location of parking, site access, and loading docks. Project developers agreed to flip the orientation of the proposed industrial building in order to reduce any impacts to the church and school located north and northwest of the project site.

Policy N 1.5. *Limit truck traffic in residential and commercial areas to designated truck routes; limit construction, delivery, and through-truck traffic to designated routes; and distribute maps of approved truck routes to County traffic officers.*

The County of San Bernardino has not published any data regarding truck routes at this time.

Policy N 1.6. *Enforce the hourly noise-level performance standards for stationary and other locally regulated sources, such as industrial, recreational, and construction activities as well as mechanical and electrical equipment.*

Consistency with stationary noise standards is discussed under County of San Bernardino Development Code, below.

Policy N 2.1. *The County will require appropriate and feasible on-site noise attenuating measures that may include noise walls, enclosure of noise generating equipment, site planning to locate noise sources away from sensitive receptors, and other comparable features.*

Project developers agreed to flip the orientation of the proposed industrial building in order to reduce any impacts to the church and school located north and northwest of the project site.

County of San Bernardino Development Code

Section 83.01.080 of the County of San Bernardino Development Code establishes standards concerning acceptable noise levels for both noise sensitive land uses and for noise generating land uses. Sections of the code applicable to the proposed project are presented below.

Noise Standards for Stationary Noise Sources

As mentioned previously, noise level limits for Stationary Sources, as they affect adjacent properties (Section 83.01.080(c)(1) of San Bernardino County Code) do not

apply because the land uses that may be affected by the proposed project are not included in the list of receiving properties. The interior noise level limit presented in Table 5 (a 12-Hour Equivalent level of 45 dBA L_{dn}) for educational, institutions, libraries and meeting facilities applies to the proposed project.

Noise Standards from Adjacent Mobile Noise Sources

Project operational noise will not cause interior noise levels to exceed 45 dBA L_{dn}/CNEL at any sensitive receptors.

Summary of On-Site Operational Noise Impacts. Project stationary noise sources at the nearest sensitive receptor may result in noise levels of up to 61.1 dBA L_{eq} during the day and 60.3 dBA CNEL over a 24 hour period. Operational noise would not result in an increase of 5 dBA or greater over the current ambient noise level of 56.7 dBA L_{eq}. Operational noise levels are shown on Figures 5 through 7.

C. Off-Site Operational Noise Impacts

1. Off-Site Operational Noise Impacts

Existing and Existing Plus Project noise levels were modeled for each roadway segment included in the traffic study (Kunzman Associates, Inc., 2014) in order to calculate project generated increases in ambient noise levels, as well as noise levels overall with operation of the project. The noise level was found at the nearest sensitive receptor for each roadway segment. Noise levels were modeled using the FHWA Traffic Noise Prediction Model - FHWA-RD-77-108, Modeling output is included in this report as Appendix C.

The Existing traffic noise model resulted in noise levels of 63.0-82.9 dBA CNEL at nearby sensitive receptors along area roadways. The Existing Plus Project traffic noise model resulted in noise levels of 65.2-82.9 dBA CNEL at nearby sensitive receptors and increases in ambient noise levels of 0.0 to 2.2 dBA CNEL. The results of the Existing and Existing Plus Project traffic noise models are shown in Table 7.

It is widely accepted that the average healthy ear can barely perceive changes of 3 dBA; that a change of 5 dBA is readily perceptible, and that an increase or decrease of 10 dBA sounds twice or half as loud. For example, doubling the traffic on a highway would result in an increase of 3 dB. Conversely, reducing traffic by one half would reduce the noise level by 3 dB (Caltrans 2009). For purposes of this study, roadway noise impacts would be considered significant if the project increases noise levels for a noise sensitive land use by 3 dBA CNEL and if: (1) the existing noise levels already exceed the standard appropriate for the receiving land use (60 dBA CNEL for residential and 65 dBA CNEL for churches and schools), or (2) the project increases noise from a level below the standard appropriate for the receiving land use to a level above that standard.

2. Consistency with Applicable Standards

The County of San Bernardino Development Code Table 83-3 (Table 5) proscribes mobile noise level limits for different land uses. Although noise levels along many area road segments already exceed standards, the project will not increase noise levels on area road segments by more than 2.2 dBA CNEL.

Summary of Off-Site Operational Noise Impacts. Unmitigated noise levels along project area roadways are projected to increase from 0.0 to 2.2 dBA with the completion of the proposed project. The largest increase (2.2 dBA) will occur along Almond Avenue just southwest of the proposed project, which as mentioned previously, would not be audible. Because there are no road segments which will exceed 65 dBA CNEL *and* experience an increase of 3 dBA CNEL or greater, project generated traffic noise will not result in a significant impact.

D. Vibration Impacts

1. Project Generated Vibration

Construction of the proposed project and passing haul trucks will both generate ground-borne vibration noise that may be perceptible at the nearest sensitive receptor.

Ground-borne vibration is an oscillatory motion that is often described by the average amplitude of its velocity in inches per second or more specifically, peak particle velocity. Ground-borne vibration is much less common than airborne noise; the ambient peak particle velocity of a residential area is commonly .0003 inches per second or less, well below the threshold of human perception of .0059 inches per second. Nonetheless, human reactions to vibration are highly subjective, and even levels below the threshold can cause minor annoyances like rattling of dishes, doors, or fixtures. Typical human response to vibration is given in Table 8.

Table 9 shows the peak particle velocities of some common construction equipment and haul trucks (loaded trucks). The most vibration-causing piece of equipment that will likely be used on-site is the vibratory roller. This machine can cause vibration strong enough to annoy people over 100 feet away. Due to the proximity of the adjacent church and school, project construction activities may result in ground borne vibration that is annoying but would only occur during site grading and preparation activities. Construction vibration will not result in any structural damage.

Based on Caltrans data, haul trucks would not be anticipated to exceed 0.10 in/sec peak particle velocity (ppv) at 10 feet (Caltrans 2002). Predicted vibration levels at the nearest off-site structures, which are located in excess of 25 feet from the traveled roadway segments, would not be anticipated to exceed even the most conservative threshold of 0.2 inch/second ppv.

Adherence to County of San Bernardino's allowed hours for construction will minimize ground vibration noise impacts related to construction at adjacent sensitive receptors.

2. Consistency with Applicable Standards

County of San Bernardino

Section 83.01.090(a) of the County of San Bernardino Development Code prohibits the creation of ground vibration that can be felt without the aid of instruments at or beyond the lot-line, nor shall any vibration be allowed which produces a particle velocity greater than or equal to two-tenths (0.2) inches per second measured at or beyond the lot-line.

However, construction of the proposed project is exempt from this standard if it takes place between 7:00 AM and 7:00 PM, and not on Sundays or Federal holidays.

Summary of Vibration Impacts. Construction equipment may result in vibration levels that are considered annoying at nearby sensitive receptors when the most vibration causing equipment is within 100 feet. Limiting construction to the hours in which it is exempt from the County's noise ordinance will greatly reduce this impact.

Table 6

Typical Construction Equipment Noise Levels[1]

Type of Equipment	Range of Maximum Sound Levels Measured (dBA at 50 ft.)	Suggested Maximum Sound Levels for Analysis (dBA at 50 ft.)
Rock Drills	83-99	96
Jack Hammers	75-85	82
Pneumatic Tools	78-88	85
Pumps	74-84	80
Dozers	77-90	85
Scrapers	83-91	87
Haul Trucks	83-94	88
Cranes	79-86	82
Portable Generators	71-87	80
Rollers	75-82	80
Tractors	77-82	80
Front-End Loaders	77-90	86
Hydraulic Backhoe	81-90	86
Hydraulic Excavators	81-90	86
Graders	79-89	86
Air Compressors	76-89	86
Trucks	81-87	86

[1] Source: Bolt, Beranek & Newman; Noise Control for Buildings and Manufacturing Plants, 1987.

Table 7

Existing and Existing Plus Project Traffic Noise Levels

Roadway	Segment	Distance from roadway centerline to closest sensitive receptor (ft)	Modeled Noise Levels (dBA CNEL)						
			Existing	Existing Plus Project	Increase	Applicable Standard	Substantial Increase	Exceeds Standard	Significant Impact
Alabama Street	North of San Bernardino Avenue	340	66.48	66.50	0.0	65	no	yes	**no**
	San Bernardino Avenue to Almond Avenue	85	72.88	72.90	0.0	65	no	yes	**no**
	Lugonia Avenue to I-10 Freeway	105	72.84	72.85	0.0	65	no	yes	**no**
	South of I-10 Freeway	100	73.27	73.28	0.0	65	no	yes	**no**
Almond Avenue	SW Project Access to SE Project Access	55	63.00	65.22	2.2	65	no	yes	**no**
California Street	South of I-10 Freeway	245	69.25	69.26	0.0	65	no	yes	**no**
I-10 Freeway	West of California Street	440	79.88	79.88	0.0	65	no	yes	**no**
	Nevada Street to Alabama Street	215	82.91	82.91	0.0	65	no	yes	**no**
	East of Alabama Street	360	80.33	80.33	0.0	65	no	yes	**no**
Lugonia Avenue	East of Alabama Street	65	73.33	73.34	0.0	65	no	yes	**no**
Nevada Street	South of Lugonia Avenue	100	67.91	67.91	0.0	65	no	yes	**no**
San Bernardino Avenue	Nevada Street to Alabama Street	55	73.86	73.92	0.1	65	no	yes	**no**
	East of Alabama Street	90	72.51	72.60	0.1	65	no	yes	**no**

Table 8

Human Reaction to Typical Vibration Levels[1]

Vibration Level Peak Particle Velocity in inches/second	Human Reaction
0.0059-0.0188	Threshold of perception, possibly of intrusion
0.0787	Vibrations readily perceptible
0.0984	Continuous vibration begins to annoy people
0.1968	Vibrations annoying to people in buildings
0.3937-0.5905	Vibrations considered unpleasant when continuously subjected and unacceptable by some walking on bridges.

[1] Source: Bolt, Beranek & Newman; Noise Control for Buildings and Manufacturing Plants, 1987.

Table 9

Construction Equipment Vibration Source Levels[1]

Equipment	Peak Partical Velocity in inches per second[2]		
	at 25 ft.	at 50 ft.	at 100 ft.
Clam Shovel Drop (slurry wall)	**0.202**	0.071	0.025
Vibratory Roller	**0.210**	0.074	0.026
Hoe Ram	**0.089**	0.031	0.011
Large Bulldozer	**0.089**	0.031	0.011
Caisson Drilling	**0.089**	0.031	0.011
Loaded Trucks	0.076	0.027	0.010
Jackhammer	0.035	0.012	0.004
Small Bulldozer	0.003	0.001	0.0004

[1] Source: Federal Transit Administration: Transit Noise and Vibration Impact Assessment, 2006

[2] Bold values are considered annoying to people.

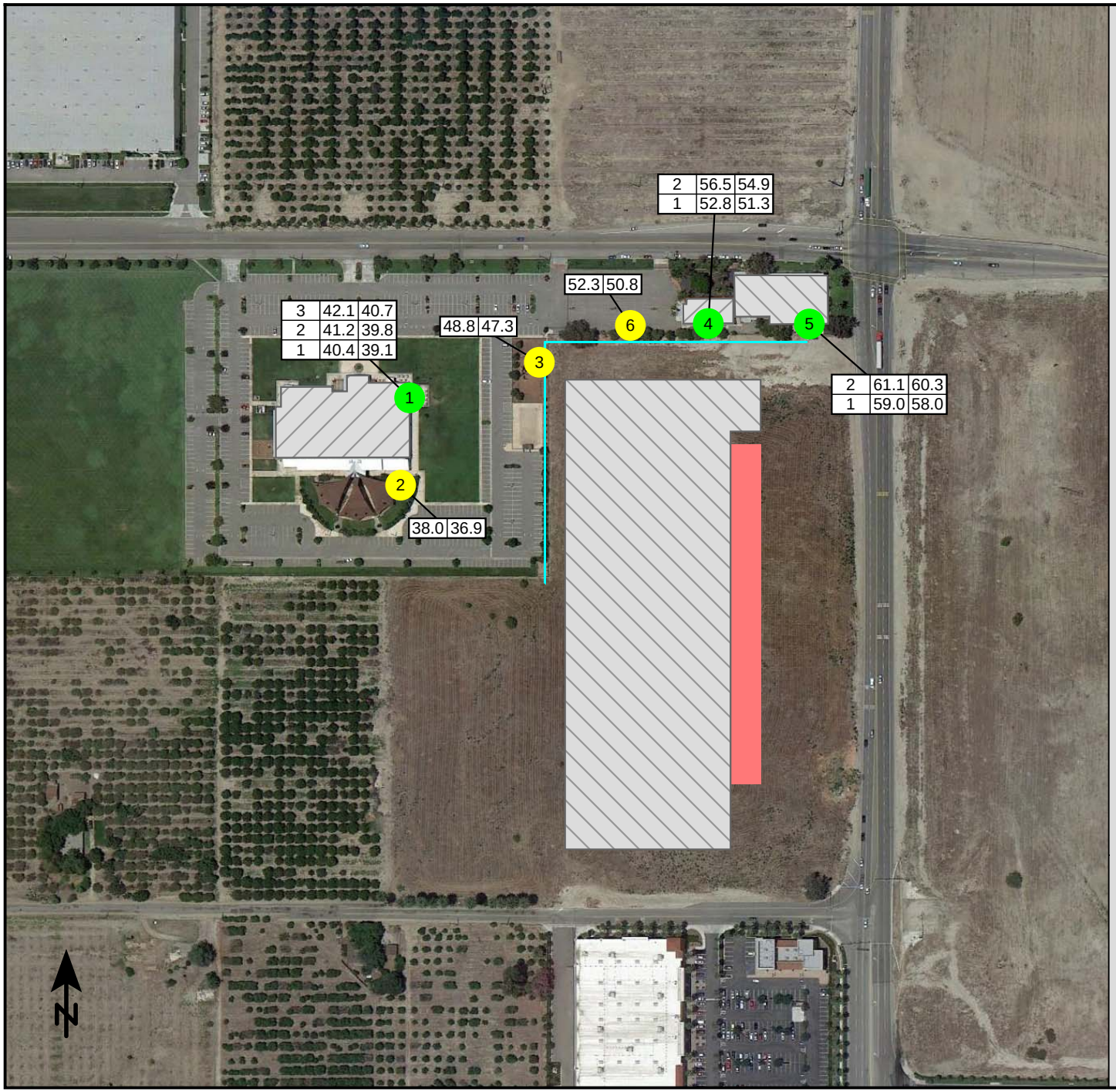

Figure 5

Operational Noise Levels
at Sensitive Receptors

Signs and symbols

- Wall
- Receiver
- Receiver at building
- Truck Docks
- Parking lot
- Daytime Leq, CNEL by floor

1 : 3532

0 20 40 80 120 160 m

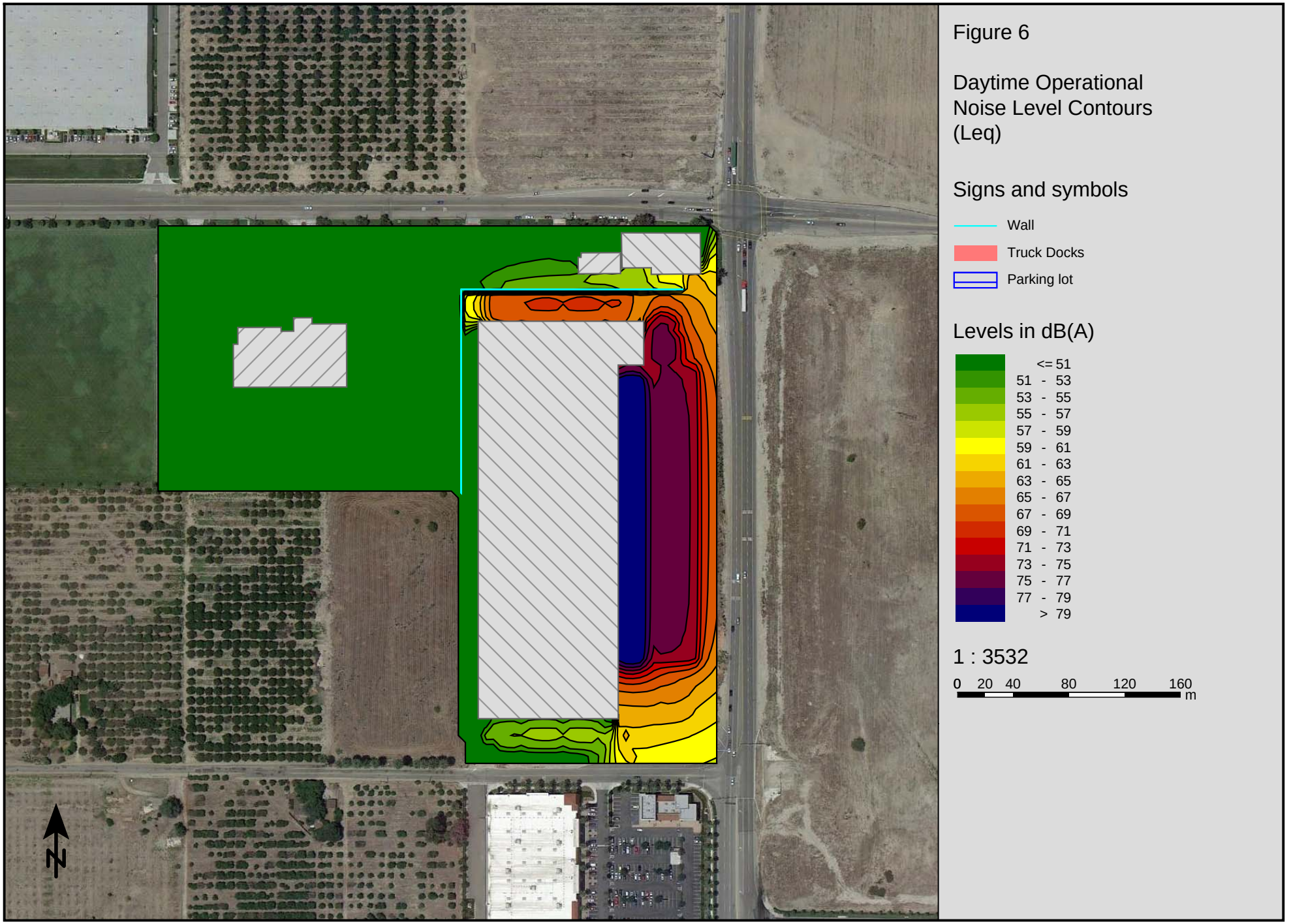
Figure 6
Daytime Operational Noise Level Contours (Leq)
Signs and symbols
Wall
Truck Docks
Parking lot
Levels in dB(A)
<= 51
51 - 53
53 - 55
55 - 57
57 - 59
59 - 61
61 - 63
63 - 65
65 - 67
67 - 69
69 - 71
71 - 73
73 - 75
75 - 77
77 - 79
> 79
1 : 3532
0 20 40 80 120 160
m
N

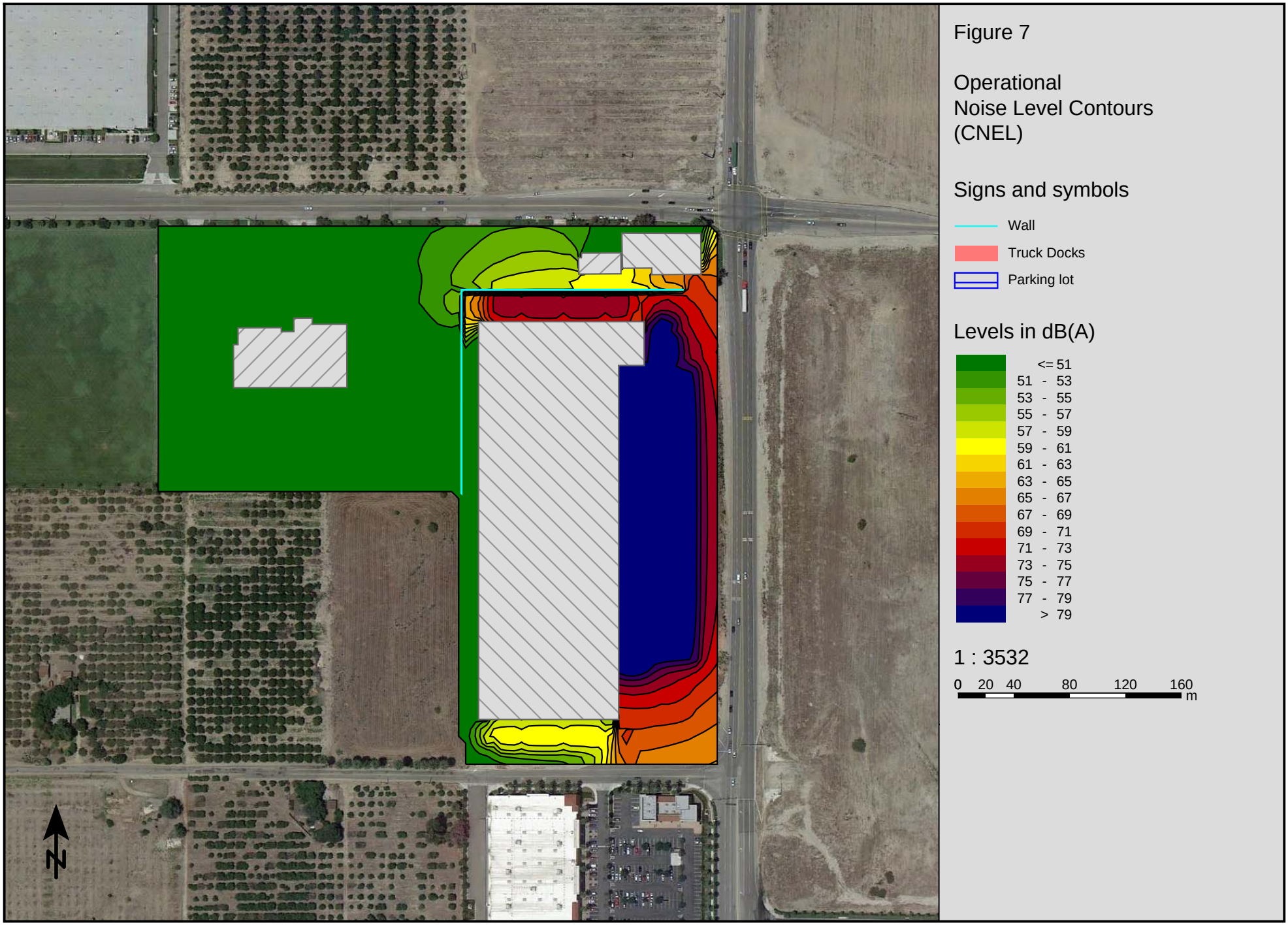
Figure 7
Operational
Noise Level Contours
(CNEL)
Signs and symbols
Wall
Truck Docks
Parking lot
Levels in dB(A)
<= 51
51 - 53
53 - 55
55 - 57
57 - 59
59 - 61
61 - 63
63 - 65
65 - 67
67 - 69
69 - 71
71 - 73
73 - 75
75 - 77
77 - 79
> 79
1 : 3532
0 20 40 80 120 160
m
N

VII. Mitigation Measures

A. Construction Measures

CMM1: During all project site excavation and grading on-site, construction contractors shall equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers, consistent with manufacturers' standards. The construction contractor shall place all stationary construction equipment so that emitted noise is directed away from the noise sensitive receptors nearest the project site.

CMM2: To minimize potential impacts to adjacent sensitive receptors, project construction shall only be performed during the hours construction activities are exempt from the County of San Bernardino's noise ordinance:

Temporary construction, maintenance, repair, and demolition activities between 7:00 AM and 7:00 PM, except Sundays and Federal holidays are exempt from Section 83.01.080(g)(3) the San Bernardino Development Code.

CMM4: The construction contractor shall limit haul truck deliveries to the same hours specified for construction equipment. To the extent feasible, haul routes shall not pass sensitive land uses or residential dwellings.

CMM5: The construction contractor shall locate equipment staging in areas that will create the greatest distance between construction-related noise sources and noise sensitive receptors nearest the project site during all project construction.

CMM6: **T**he proposed 8 foot barrier along the northern and western property lines should be constructed before other construction activities begin. This will help lessen any impacts to sensitive receptors.

CMM7: To minimize any impact to students, construction within 250 feet of classrooms and outdoor play areas should be avoided during school hours whenever possible. Coordination between the contractor and school officials is encouraged.

B. Operational Measures

OMM1: All operational equipment, fixed or mobile, shall be fitted with properly operating and maintained mufflers, consistent with manufacturers' standards. All available noise suppression devices and techniques should be utilized whenever possible to reduce exterior operational equipment noise to acceptable levels that are compatible with adjacent land uses. The building occupant shall place all stationary noise generating equipment so that emitted noise is directed away from the noise sensitive receptors nearest the project site.

VIII. References

Bolt, Baranek, and Newman
1971 Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances

California Department of Transportation (Caltrans)
2009 Technical Noise Supplement. Division of Environmental Analysis, November.

Federal Transit Administration
2006 Transit Noise and Vibration Impact Assessment

Harris, Cyril M.
1991 Handbook of Acoustical Measurement and Noise Control

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2009 Requirements for determining and mitigating traffic noise impacts to residential structures. Department of Health – Office of Industrial Hygiene

San Bernardino, County of
2007 Development Code
2007 General Plan

Kunzman Associates, Inc.
2014 Alabama Venture 1 Project Traffic Impact Analysis (Revised)

Appendices

Appendix A – Larson Davis Noise Meter Data

Appendix B – RCNM Noise Modeling Output

Appendix C – FHWA-RD-77-108 Model Output Traffic Noise Worksheets

APPENDIX A

Larson Davis Noise Meter Data

Summary					
Filename	LxT_Data.085				
Serial Number	3099				
Model	LxT1				
Firmware Version	2.112				
User					
Location					
Job Description					
Note					
Measurement Description					
Start	17/07/2013 18:46:07				
Stop	17/07/2013 19:01:07				
Duration	0:15:00.0				
Run Time	0:15:00.0				
Pause	0:00:00.0				
Pre Calibration	17/07/2013 18:45:20				
Post Calibration	None				
Calibration Deviation	---				
Overall Settings					
RMS Weight	A Weighting				
Peak Weight	Z Weighting				
Detector	Slow				
Preamp	PRMLxT1L				
Integration Method	Exponential				
Overload	122.0	dB			
	A		**C**	**Z**	
Under Range Peak	78.2		75.2	**80.2**	dB
Under Range Limit	**25.1**		25.3	30.2	dB
Noise Floor	16.0		16.1	21.1	dB
Results					
LASeq	56.7	dB			
LASE	86.2	dB			
EAS	46.276	µPa²h			
EAS8	1.481	mPa²h			
EAS40	7.404	mPa²h			
LZpeak (max)	17/07/2013 18:55:03		116.8	dB	
LASmax	17/07/2013 18:55:04		72.6	dB	
LASmin	17/07/2013 18:57:52		45.5	dB	
SEA	-99.9	dB			
LAS > 65.0 dB (Exceedence Counts / Duration)	9		35.1	s	
LAS > 60.0 dB (Exceedence Counts / Duration)	12		95.0	s	
LZpeak > 110.0 dB (Exceedence Counts / Duration)	12		10.2	s	
LZpeak > 90.0 dB (Exceedence Counts / Duration)	217		542.0	s	

LZpeak > 70.0 dB (Exceedence Counts / Duration)	1	899.9 s

LCSeq	78.3	dB
LASeq	56.7	dB
LCSeq - LASeq	21.6	dB
LAIeq	62.5	dB
LAeq	56.7	dB
LAIeq - LAeq	5.8	dB
# Overloads	0	
Overload Duration	0.0	s

Dose Settings			
Dose Name	OSHA-1	OSHA-2	
Exch. Rate	5	5	dB
Threshold	None	None	dB
Criterion Level	90	90	dB
Criterion Duration	8	8	h

Results			
Dose	0.0	0.0	%
Projected Dose	0.8	0.8	%
TWA (Projected)	54.8	54.8	dB
TWA (t)	29.8	29.8	dB
Lep (t)	41.6	41.6	dB

Statistics		
LAS1.67	67.2	dB
LAS8.33	60.1	dB
LAS25.00	54.5	dB
LAS50.00	51.9	dB
LAS66.67	50.6	dB
LAS90.00	48.9	dB

Calibration History

Preamp	**Date**	**dB re. 1V/Pa**	**6.3**	**8.0**
Direct	01/01/2007 0:21:41	-24.8	36.8	49.6
PRMLxT1L	17/07/2013 18:45:18	-28.3		
PRMLxT1L	08/07/2013 10:53:42	-27.9		
PRMLxT1L	03/07/2013 19:42:00	-27.8		
PRMLxT1L	24/06/2013 16:24:57	-27.9		
PRMLxT1L	19/06/2013 16:13:58	-27.9		
PRMLxT1L	18/06/2013 13:38:28	-28.1		
PRMLxT1L	18/06/2013 8:33:41	-27.9		
PRMLxT1L	16/06/2013 19:06:34	-27.7		
PRMLxT1L	07/06/2013 15:27:21	-27.8		
PRMLxT1L	07/06/2013 15:25:39	-27.9		

PRMLxT1L	06/06/2013 12:03:56	-27.9

Summary

Filename	LxT_Data.086			
Serial Number	3099			
Model	LxT1			
Firmware Version	2.112			
User				
Location				
Job Description				
Note				
Measurement Description				
Start	17/07/2013 19:26:20			
Stop	17/07/2013 19:41:20			
Duration	0:15:00.0			
Run Time	0:15:00.0			
Pause	0:00:00.0			
Pre Calibration	17/07/2013 18:45:18			
Post Calibration	None			
Calibration Deviation	---			

Overall Settings

RMS Weight	A Weighting			
Peak Weight	Z Weighting			
Detector	Slow			
Preamp	PRMLxT1L			
Integration Method	Exponential			
Overload	122.0 dB			
	A	**C**	**Z**	
Under Range Peak	74.2	73.2	**78.2**	dB
Under Range Limit	**25.1**	25.3	30.2	dB
Noise Floor	16.0	16.1	21.1	dB

Results

LASeq	54.9	dB	
LASE	84.4	dB	
EAS	57.540	µPa²h	
EAS8	1.969	mPa²h	
EAS40	9.846	mPa²h	
LZpeak (max)	17/07/2013 19:31:22	109.6	dB
LASmax	17/07/2013 19:30:00	70.7	dB
LASmin	17/07/2013 19:40:39	44.4	dB
SEA	120.6	dB	

LAS > 65.0 dB (Exceedence Counts / Duration)	0	0.0	s
LAS > 60.0 dB (Exceedence Counts / Duration)	4	43.3	s
LZpeak > 110.0 dB (Exceedence Counts / Duration)	0	0.0	s
LZpeak > 90.0 dB (Exceedence Counts / Duration)	21	72.4	s

LZpeak > 70.0 dB (Exceedence Counts / Duration)	1	899.9 s

LCSeq	72.3	dB
LASeq	54.9	dB
LCSeq - LASeq	17.4	dB
LAIeq	60.1	dB
LAeq	54.9	dB
LAIeq - LAeq	5.2	dB
# Overloads	0	
Overload Duration	0.0	s

Dose Settings			
Dose Name	OSHA-1	OSHA-2	
Exch. Rate	5	5	dB
Threshold	None	None	dB
Criterion Level	90	90	dB
Criterion Duration	8	8	h

Results			
Dose	0.0	0.0	%
Projected Dose	0.4	0.4	%
TWA (Projected)	52.3	52.3	dB
TWA (t)	27.3	27.3	dB
Lep (t)	40.8	40.8	dB

Statistics		
LAS1.67	63.1	dB
LAS8.33	59.8	dB
LAS25.00	56.7	dB
LAS50.00	53.6	dB
LAS66.67	51.0	dB
LAS90.00	48.9	dB

Calibration History

Preamp	**Date**	**dB re. 1V/Pa**	**6.3**	**8.0**
Direct	01/01/2007 0:21:41	-24.8	36.8	49.6
PRMLxT1L	17/07/2013 18:45:18	-28.3		
PRMLxT1L	08/07/2013 10:53:42	-27.9		
PRMLxT1L	03/07/2013 19:42:00	-27.8		
PRMLxT1L	24/06/2013 16:24:57	-27.9		
PRMLxT1L	19/06/2013 16:13:58	-27.9		
PRMLxT1L	18/06/2013 13:38:28	-28.1		
PRMLxT1L	18/06/2013 8:33:41	-27.9		
PRMLxT1L	16/06/2013 19:06:34	-27.7		
PRMLxT1L	07/06/2013 15:27:21	-27.8		
PRMLxT1L	07/06/2013 15:25:39	-27.9		

PRMLxT1L	06/06/2013 12:03:56	-27.9

APPENDIX B

RCNM Noise Modeling Output

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 11/04/2013
Case Description: Chiming Industrial Construction Leq

**** Receptor #1 ****

Baselines (dBA)

Description	Land Use	Daytime	Evening	Night
Church Amphitheater	Commercial	56.7	56.7	56.7

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Grader	No	40	85.0		100.0	0.0
Backhoe	No	40		77.6	100.0	0.0
Dozer	No	40		81.7	100.0	0.0
Excavator	No	40		80.7	100.0	0.0
Dump Truck	No	40		76.5	100.0	0.0

Results

Equipment	Calculated (dBA) Day Lmax	Calculated (dBA) Day Leq	Noise Limits (dBA) Evening Lmax	Noise Limits (dBA) Evening Leq	Noise Limits (dBA) Night Lmax	Noise Limits (dBA) Night Leq	Noise Limit Exceedance (dBA) Day Lmax	Noise Limit Exceedance (dBA) Day Leq	Noise Limit Exceedance (dBA) Evening Lmax	Noise Limit Exceedance (dBA) Evening Leq	Noise Limit Exceedance (dBA) Night Lmax	Noise Limit Exceedance (dBA) Night Leq
Grader	79.0	75.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	71.5	67.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	75.6	71.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Excavator	74.7	70.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dump Truck	70.4	66.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	79.0	78.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 11/04/2013
Case Description: Alabama Venture 1 Construction Lmax

**** Receptor #1 ****

Baselines (dBA)

Description	Land Use	Daytime	Evening	Night
School Building	Commercial	56.7	56.7	56.7

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Grader	No	40	85.0		25.0	0.0

Results

	Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
	Calculated (dBA)		Day		Evening		Night		Day		Evening		Night	
Equipment	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Grader	91.0	87.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	91.0	87.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

**** Receptor #2 ****

Baselines (dBA)

Description	Land Use	Daytime	Evening	Night
100'	Commercial	56.7	56.7	56.7

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Grader	No	40	85.0		100.0	0.0

Results

	Noise Limits (dBA)						Noise Limit Exceedance (dBA)					

	Calculated (dBA)		Day		Evening		Night		Day		Evening		Night	
Equipment	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Grader	79.0	75.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	79.0	75.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

**** Receptor #3 ****

Baselines (dBA)

Description	Land Use	Daytime	Evening	Night
250'	Commercial	56.7	56.7	56.7

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Grader	No	40	85.0		250.0	0.0

Results

	Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
	Calculated (dBA)		Day		Evening		Night		Day		Evening		Night	
Equipment	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Grader	71.0	67.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	71.0	67.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

**** Receptor #4 ****

Baselines (dBA)

Description	Land Use	Daytime	Evening	Night
500'	Commercial	56.7	56.7	56.7

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Grader	No	40	85.0		500.0	0.0

Results

	Calculated (dBA)		Noise Limits (dBA) Day		Evening		Night		Noise Limit Exceedance (dBA) Day		Evening		Night	
Equipment	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Grader	65.0	61.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	65.0	61.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

APPENDIX C

FHWA-RD-77-108 Model Output Traffic Noise Worksheets

FHWA Sound32 Spreadsheet

Noise Analysis for Chiming Industrial

Existing Traffic Noise - Alabama Street, Lugonia Avenue to I-10 Freeway

Closest Sensitive Receptor

	DAYTIME			EVENING			NIGHTTIME		
	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS
INPUT PARAMETERS									
Vehicles per hour	1418.89	29.40	49.00	1053.37	4.90	8.17	261.21	40.83	68.06
Speed in MPH	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	67.36	76.31	81.16	67.36	76.31	81.16	67.36	76.31	81.16
ADJUSTMENTS									
Flow	25.19	8.36	10.58	23.90	0.58	2.79	17.84	9.78	12.00
Distance	-3.29	-3.29	-3.29	-3.29	-3.29	-3.29	-3.29	-3.29	-3.29
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	64.26	56.38	63.44	62.97	48.60	55.66	56.91	57.80	64.87

	DAY LEQ	67.25		EVENING LEQ	63.84		NIGHT LEQ	66.19	
	CNEL		72.84						

ADT	24500.00	#VALUE!			
SPEED	40.00				
DISTANCE	105.00				
		0.32			
% A	92.00	% DAY	75.54	69.50	
		% EVENING	14.02	12.90	
		% NIGHT	10.43	9.60	
% MT	3.00	% DAY	48.00	1.44	
		% EVENING	2.00	0.06	
		% NIGHT	50.00	1.50	
% HT	5.00	% DAY	48.00	2.40	
		% EVENING	2.00	0.10	
		% NIGHT	50.00	2.50	
LEFT	-90.00				
RIGHT	90.00				
CNEL	72.84				
DAY LEQ	67.25				
Day hour	89.00				
Absorbtive?	no	TO TURN ON, COPY K2 TO J2			
Use hour?	no	TO TURN OFF, ENTER ADTS IN J2			
GRADE dB	0.00				

FHWA Sound32 Spreadsheet

Noise Analysis for Chiming Industrial

Existing Plus Project Traffic Noise - Alabama Street, Lugonia Avenue to I-10 Freeway

Closest Sensitive Receptor

	DAYTIME			EVENING			NIGHTTIME		
	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS
INPUT PARAMETERS									
Vehicles per hour	1430.73	29.40	49.00	1062.16	4.90	8.17	263.39	40.83	68.06
Speed in MPH	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	67.36	76.31	81.16	67.36	76.31	81.16	67.36	76.31	81.16
ADJUSTMENTS									
Flow	25.23	8.36	10.58	23.94	0.58	2.79	17.88	9.78	12.00
Distance	-3.29	-3.29	-3.29	-3.29	-3.29	-3.29	-3.29	-3.29	-3.29
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	64.30	56.38	63.44	63.00	48.60	55.66	56.95	57.80	64.87

	DAY LEQ	67.27		EVENING LEQ	63.87		NIGHT LEQ	66.20	
	CNEL		72.85						

ADT	24688.00	#VALUE!		
SPEED	40.00			
DISTANCE	105.00			
		0.32		
% A	92.06	% DAY	75.54	*69.54*
		% EVENING	14.02	*12.91*
		% NIGHT	10.43	*9.60*
% MT	2.98	% DAY	48.00	*1.43*
		% EVENING	2.00	*0.06*
		% NIGHT	50.00	*1.49*
% HT	4.96	% DAY	48.00	*2.38*
		% EVENING	2.00	*0.10*
		% NIGHT	50.00	*2.48*
LEFT	-90.00			
RIGHT	90.00			
CNEL	72.85			
DAY LEQ	67.27			
Day hour	89.00			
Absorbtive?	no	TO TURN ON, COPY K2 TO J2		
Use hour?	no	TO TURN OFF, ENTER ADTS IN J2		
GRADE dB	0.00			

FHWA Sound32 Spreadsheet

Noise Analysis for Chiming Industrial

Existing Traffic Noise - Alabama Street, North of San Bernardino Avenue

Closest Sensitive Receptor

	DAYTIME			EVENING			NIGHTTIME		
	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS
INPUT PARAMETERS									
Vehicles per hour	764.46	15.84	26.40	567.53	2.64	4.40	140.74	22.00	36.67
Speed in MPH	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	71.12	78.79	83.02	71.12	78.79	83.02	71.12	78.79	83.02
ADJUSTMENTS									
Flow	21.54	4.70	6.92	20.24	-3.08	-0.86	14.19	6.13	8.35
Distance	-8.40	-8.40	-8.40	-8.40	-8.40	-8.40	-8.40	-8.40	-8.40
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	59.26	50.10	56.55	57.97	42.32	48.76	51.91	51.53	57.97
	DAY LEQ	61.45		EVENING LEQ	58.57		NIGHT LEQ	59.66	
	CNEL		66.48						

ADT	13200.00	#VALUE!			
SPEED	50.00				
DISTANCE	340.00				
		0.32			
% A	92.00	% DAY	75.54		69.50
		% EVENING	14.02		12.90
		% NIGHT	10.43		9.60
% MT	3.00	% DAY	48.00		1.44
		% EVENING	2.00		0.06
		% NIGHT	50.00		1.50
% HT	5.00	% DAY	48.00		2.40
		% EVENING	2.00		0.10
		% NIGHT	50.00		2.50
LEFT	-90.00				
RIGHT	90.00				
CNEL	66.48				
DAY LEQ	61.45				
Day hour	89.00				
Absorbtive?	no	TO TURN ON, COPY K2 TO J2			
Use hour?	no	TO TURN OFF, ENTER ADTS IN J2			
GRADE dB	0.00				

FHWA Sound32 Spreadsheet

Noise Analysis for Chiming Industrial

Existing Plus Project Traffic Noise - Alabama Street, North of San Bernardino Avenue

Closest Sensitive Receptor

	DAYTIME			EVENING			NIGHTTIME		
	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS
INPUT PARAMETERS									
Vehicles per hour	767.11	15.88	26.56	569.49	2.65	4.43	141.22	22.06	36.89
Speed in MPH	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	71.12	78.79	83.02	71.12	78.79	83.02	71.12	78.79	83.02
ADJUSTMENTS									
Flow	21.55	4.71	6.95	20.26	-3.07	-0.83	14.20	6.14	8.37
Distance	-8.40	-8.40	-8.40	-8.40	-8.40	-8.40	-8.40	-8.40	-8.40
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	59.28	50.11	56.57	57.98	42.33	48.79	51.93	51.54	58.00

	DAY LEQ	61.47		EVENING LEQ	58.58		NIGHT LEQ	59.68	
	CNEL		66.50						

ADT	13247.00	#VALUE!	
SPEED	50.00		
DISTANCE	340.00		
		0.32	
% A	91.99	% DAY	75.54 *69.49*
		% EVENING	14.02 *12.90*
		% NIGHT	10.43 *9.59*
% MT	3.00	% DAY	48.00 *1.44*
		% EVENING	2.00 *0.06*
		% NIGHT	50.00 *1.50*
% HT	5.01	% DAY	48.00 *2.41*
		% EVENING	2.00 *0.10*
		% NIGHT	50.00 *2.51*
LEFT	-90.00		
RIGHT	90.00		
CNEL	66.50		
DAY LEQ	61.47		
Day hour	89.00		
Absorbtive?	no	TO TURN ON, COPY K2 TO J2	
Use hour?	no	TO TURN OFF, ENTER ADTS IN J2	
GRADE dB	0.00		

FHWA Sound32 Spreadsheet

Noise Analysis for Chiming Industrial

Existing Traffic Noise - Alabama Street, San Bernardino Avenue to Almond Avenue

Closest Sensitive Receptor

	DAYTIME			EVENING			NIGHTTIME		
	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS
INPUT PARAMETERS									
Vehicles per hour	833.96	17.28	28.80	619.12	2.88	4.80	153.53	24.00	40.00
Speed in MPH	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	71.12	78.79	83.02	71.12	78.79	83.02	71.12	78.79	83.02
ADJUSTMENTS									
Flow	21.92	5.08	7.30	20.62	-2.70	-0.48	14.57	6.51	8.73
Distance	-2.37	-2.37	-2.37	-2.37	-2.37	-2.37	-2.37	-2.37	-2.37
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	65.66	56.50	62.94	64.37	48.72	55.16	58.31	57.93	64.37

DAY LEQ	67.85		EVENING LEQ	64.96		NIGHT LEQ	66.06
CNEL		72.88					

ADT	14400.00	#VALUE!			
SPEED	50.00				
DISTANCE	85.00				
		0.32			
% A	92.00	% DAY	75.54	69.50	
		% EVENING	14.02	12.90	
		% NIGHT	10.43	9.60	
% MT	3.00	% DAY	48.00	1.44	
		% EVENING	2.00	0.06	
		% NIGHT	50.00	1.50	
% HT	5.00	% DAY	48.00	2.40	
		% EVENING	2.00	0.10	
		% NIGHT	50.00	2.50	
LEFT	-90.00				
RIGHT	90.00				
CNEL	72.88				
DAY LEQ	67.85				
Day hour	89.00				
Absorbtive?	no	TO TURN ON, COPY K2 TO J2			
Use hour?	no	TO TURN OFF, ENTER ADTS IN J2			
GRADE dB	0.00				

FHWA Sound32 Spreadsheet

Noise Analysis for Chiming Industrial

Existing Plus Project Traffic Noise - Alabama Street, San Bernardino Avenue to Almond Avenue

Closest Sensitive Receptor

	DAYTIME			EVENING			NIGHTTIME		
	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS
INPUT PARAMETERS									
Vehicles per hour	845.80	17.28	28.80	627.91	2.88	4.80	155.71	24.00	40.00
Speed in MPH	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	71.12	78.79	83.02	71.12	78.79	83.02	71.12	78.79	83.02
ADJUSTMENTS									
Flow	21.98	5.08	7.30	20.68	-2.70	-0.48	14.63	6.51	8.73
Distance	-2.37	-2.37	-2.37	-2.37	-2.37	-2.37	-2.37	-2.37	-2.37
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	65.72	56.50	62.94	64.43	48.72	55.16	58.37	57.93	64.37

DAY LEQ	67.89	EVENING LEQ	65.02	NIGHT LEQ	66.07	
CNEL		72.90				

ADT	14588.00	#VALUE!			
SPEED	50.00				
DISTANCE	85.00				
		0.32			
% A	92.10	% DAY	75.54	*69.57*	
		% EVENING	14.02	*12.91*	
		% NIGHT	10.43	*9.61*	
% MT	2.96	% DAY	48.00	*1.42*	
		% EVENING	2.00	*0.06*	
		% NIGHT	50.00	*1.48*	
% HT	4.94	% DAY	48.00	*2.37*	
		% EVENING	2.00	*0.10*	
		% NIGHT	50.00	*2.47*	
LEFT	-90.00				
RIGHT	90.00				
CNEL	72.90				
DAY LEQ	67.89				
Day hour	89.00				
Absorbtive?	no	TO TURN ON, COPY K2 TO J2			
Use hour?	no	TO TURN OFF, ENTER ADTS IN J2			
GRADE dB	0.00				

FHWA Sound32 Spreadsheet

Noise Analysis for Chiming Industrial

Existing Traffic Noise - Alabama Street, South of I-10 Freeway

Closest Sensitive Receptor

	DAYTIME			EVENING			NIGHTTIME		
	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS
INPUT PARAMETERS									
Vehicles per hour	1494.18	30.96	51.60	1109.26	5.16	8.60	275.07	43.00	71.67
Speed in MPH	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	67.36	76.31	81.16	67.36	76.31	81.16	67.36	76.31	81.16
ADJUSTMENTS									
Flow	25.42	8.58	10.80	24.12	0.80	3.02	18.07	10.01	12.23
Distance	-3.08	-3.08	-3.08	-3.08	-3.08	-3.08	-3.08	-3.08	-3.08
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	64.70	56.81	63.88	63.40	49.03	56.10	57.35	58.24	65.31

	DAY LEQ	67.69		EVENING LEQ	64.28		NIGHT LEQ	66.63	
	CNEL		73.27						

ADT	25800.00	#VALUE!			
SPEED	40.00				
DISTANCE	100.00				
		0.32			
% A	92.00	% DAY	75.54	69.50	
		% EVENING	14.02	12.90	
		% NIGHT	10.43	9.60	
% MT	3.00	% DAY	48.00	1.44	
		% EVENING	2.00	0.06	
		% NIGHT	50.00	1.50	
% HT	5.00	% DAY	48.00	2.40	
		% EVENING	2.00	0.10	
		% NIGHT	50.00	2.50	
LEFT	-90.00				
RIGHT	90.00				
CNEL	73.27				
DAY LEQ	67.69				
Day hour	89.00				
Absorbtive?	no	TO TURN ON, COPY K2 TO J2			
Use hour?	no	TO TURN OFF, ENTER ADTS IN J2			
GRADE dB	0.00				

FHWA Sound32 Spreadsheet

Noise Analysis for Chiming Industrial

Existing Plus Project Traffic Noise - Alabama Street, South of I-10 Freeway

Closest Sensitive Receptor

	DAYTIME			EVENING			NIGHTTIME		
	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS
INPUT PARAMETERS									
Vehicles per hour	1496.83	30.96	51.60	1111.23	5.16	8.60	275.56	43.00	71.67
Speed in MPH	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	67.36	76.31	81.16	67.36	76.31	81.16	67.36	76.31	81.16
ADJUSTMENTS									
Flow	25.43	8.58	10.80	24.13	0.80	3.02	18.08	10.01	12.23
Distance	-3.08	-3.08	-3.08	-3.08	-3.08	-3.08	-3.08	-3.08	-3.08
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	64.70	56.81	63.88	63.41	49.03	56.10	57.36	58.24	65.31

	DAY LEQ	67.69		EVENING LEQ	64.28		NIGHT LEQ	66.63	
	CNEL		73.28						

ADT	25842.00	#VALUE!		
SPEED	40.00			
DISTANCE	100.00			
			0.32	
% A	92.01	% DAY	75.54	*69.51*
		% EVENING	14.02	*12.90*
		% NIGHT	10.43	*9.60*
% MT	3.00	% DAY	48.00	*1.44*
		% EVENING	2.00	*0.06*
		% NIGHT	50.00	*1.50*
% HT	4.99	% DAY	48.00	*2.40*
		% EVENING	2.00	*0.10*
		% NIGHT	50.00	*2.50*
LEFT	-90.00			
RIGHT	90.00			
CNEL	73.28			
DAY LEQ	67.69			
Day hour	89.00			
Absorbtive?	no	TO TURN ON, COPY K2 TO J2		
Use hour?	no	TO TURN OFF, ENTER ADTS IN J2		
GRADE dB	0.00			

FHWA Sound32 Spreadsheet

Noise Analysis for Chiming Industrial

Existing Traffic Noise - Almond Avenue, Nevada Street to SW Project Access

Closest Sensitive Receptor

	DAYTIME			EVENING			NIGHTTIME		
	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS
INPUT PARAMETERS									
Vehicles per hour	92.66	1.92	3.20	68.79	0.32	0.53	17.06	2.67	4.44
Speed in MPH	35.00	35.00	35.00	35.00	35.00	35.00	35.00	35.00	35.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	65.11	74.83	80.05	65.11	74.83	80.05	65.11	74.83	80.05
ADJUSTMENTS									
Flow	13.92	-2.91	-0.70	12.63	-10.70	-8.48	6.57	-1.49	0.73
Distance	-0.48	-0.48	-0.48	-0.48	-0.48	-0.48	-0.48	-0.48	-0.48
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	53.55	46.43	53.87	52.25	38.65	46.09	46.20	47.86	55.29

	DAY LEQ	57.11		EVENING LEQ	53.34		NIGHT LEQ	56.45	
	CNEL		63.00						

ADT	1600.00	#VALUE!				
SPEED	35.00					
DISTANCE	55.00					
			0.32			
% A	92.00	% DAY	75.54	69.50		
		% EVENING	14.02	12.90		
		% NIGHT	10.43	9.60		
% MT	3.00	% DAY	48.00	1.44		
		% EVENING	2.00	0.06		
		% NIGHT	50.00	1.50		
% HT	5.00	% DAY	48.00	2.40		
		% EVENING	2.00	0.10		
		% NIGHT	50.00	2.50		
LEFT	-90.00					
RIGHT	90.00					
CNEL	63.00					
DAY LEQ	57.11					
Day hour	89.00					
Absorbtive?	no	TO TURN ON, COPY K2 TO J2				
Use hour?	no	TO TURN OFF, ENTER ADTS IN J2				
GRADE dB	0.00					

FHWA Sound32 Spreadsheet

Noise Analysis for Chiming Industrial

Existing Plus Project Traffic Noise - Almond Avenue, Nevada Street to SW Project Access

Closest Sensitive Receptor

	DAYTIME			EVENING			NIGHTTIME		
	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS
INPUT PARAMETERS									
Vehicles per hour	98.64	2.48	6.04	73.23	0.41	1.01	18.16	3.44	8.39
Speed in MPH	35.00	35.00	35.00	35.00	35.00	35.00	35.00	35.00	35.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	65.11	74.83	80.05	65.11	74.83	80.05	65.11	74.83	80.05
ADJUSTMENTS									
Flow	14.19	-1.80	2.06	12.90	-9.58	-5.72	6.84	-0.38	3.49
Distance	-0.48	-0.48	-0.48	-0.48	-0.48	-0.48	-0.48	-0.48	-0.48
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	53.82	47.54	56.63	52.53	39.76	48.84	46.47	48.97	58.05
	DAY LEQ	58.79		EVENING LEQ	54.23		NIGHT LEQ	58.82	
	CNEL		65.24						

ADT	1780.00	#VALUE!	
SPEED	35.00		
DISTANCE	55.00		
		0.32	
% A	88.03	% DAY	75.54 *66.50*
		% EVENING	14.02 *12.34*
		% NIGHT	10.43 *9.18*
% MT	3.48	% DAY	48.00 *1.67*
		% EVENING	2.00 *0.07*
		% NIGHT	50.00 *1.74*
% HT	8.48	% DAY	48.00 *4.07*
		% EVENING	2.00 *0.17*
		% NIGHT	50.00 *4.24*
LEFT	-90.00		
RIGHT	90.00		
CNEL	65.24		
DAY LEQ	58.79		
Day hour	89.00		
Absorbtive?	no	TO TURN ON, COPY K2 TO J2	
Use hour?	no	TO TURN OFF, ENTER ADTS IN J2	
GRADE dB	0.00		

FHWA Sound32 Spreadsheet

Noise Analysis for Chiming Industrial

Existing Traffic Noise - California Street, South of I-10 Freeway

Closest Sensitive Receptor

	DAYTIME			EVENING			NIGHTTIME		
	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS
INPUT PARAMETERS									
Vehicles per hour	1447.85	30.00	50.00	1074.87	5.00	8.33	266.54	41.67	69.44
Speed in MPH	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	67.36	76.31	81.16	67.36	76.31	81.16	67.36	76.31	81.16
ADJUSTMENTS									
Flow	25.28	8.44	10.66	23.99	0.66	2.88	17.93	9.87	12.09
Distance	-6.97	-6.97	-6.97	-6.97	-6.97	-6.97	-6.97	-6.97	-6.97
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	60.67	52.79	59.85	59.38	45.00	52.07	53.32	54.21	61.28

	DAY LEQ	63.66		EVENING LEQ	60.25		NIGHT LEQ	62.60	
	CNEL		69.25						

ADT	25000.00	#VALUE!			
SPEED	40.00				
DISTANCE	245.00				
		0.32			
% A	92.00	% DAY	75.54	69.50	
		% EVENING	14.02	12.90	
		% NIGHT	10.43	9.60	
% MT	3.00	% DAY	48.00	1.44	
		% EVENING	2.00	0.06	
		% NIGHT	50.00	1.50	
% HT	5.00	% DAY	48.00	2.40	
		% EVENING	2.00	0.10	
		% NIGHT	50.00	2.50	
LEFT	-90.00				
RIGHT	90.00				
CNEL	69.25				
DAY LEQ	63.66				
Day hour	89.00				
Absorbtive?	no	TO TURN ON, COPY K2 TO J2			
Use hour?	no	TO TURN OFF, ENTER ADTS IN J2			
GRADE dB	0.00				

FHWA Sound32 Spreadsheet

Noise Analysis for Chiming Industrial

Existing Plus Project Traffic Noise - California Street, South of I-10 Freeway

Closest Sensitive Receptor

	DAYTIME			EVENING			NIGHTTIME								
	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	ADT	25026.00	#VALUE!			
										SPEED	40.00				
										DISTANCE	245.00				
INPUT PARAMETERS													0.32		
Vehicles per hour	1449.17	30.04	50.16	1075.85	5.01	8.36	266.79	41.72	69.67	% A	91.99	% DAY	75.54	*69.49*	
Speed in MPH	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00			% EVENING	14.02	*12.90*	
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00			% NIGHT	10.43	*9.59*	
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	% MT	3.00	% DAY	48.00	*1.44*	
												% EVENING	2.00	*0.06*	
NOISE CALCULATIONS												% NIGHT	50.00	*1.50*	
Reference levels	67.36	76.31	81.16	67.36	76.31	81.16	67.36	76.31	81.16	% HT	5.01	% DAY	48.00	*2.41*	
												% EVENING	2.00	*0.10*	
ADJUSTMENTS												% NIGHT	50.00	*2.51*	
Flow	25.28	8.45	10.68	23.99	0.67	2.90	17.94	9.88	12.10						
Distance	-6.97	-6.97	-6.97	-6.97	-6.97	-6.97	-6.97	-6.97	-6.97	LEFT	-90.00				
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	RIGHT	90.00				
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	CNEL	69.26				
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	DAY LEQ	63.67				
LEQ	60.67	52.79	59.86	59.38	45.01	52.08	53.32	54.22	61.29	Day hour	89.00				
										Absorbtive?	no	TO TURN ON, COPY K2 TO J2			
	DAY LEQ	63.67		EVENING LEQ	60.25		NIGHT LEQ	62.61		Use hour?	no	TO TURN OFF, ENTER ADTS IN J2			
										GRADE dB	0.00				
	CNEL		69.26												

FHWA Sound32 Spreadsheet

Noise Analysis for Chiming Industrial

Existing Traffic Noise - I-10 Freeway, East of Alabama Street

Closest Sensitive Receptor

	DAYTIME			EVENING			NIGHTTIME		
	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS
INPUT PARAMETERS									
Vehicles per hour	9555.81	333.96	494.04	7094.12	55.66	82.34	1759.19	463.83	686.17
Speed in MPH	65.00	65.00	65.00	65.00	65.00	65.00	65.00	65.00	65.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	75.54	81.71	85.21	75.54	81.71	85.21	75.54	81.71	85.21
ADJUSTMENTS									
Flow	31.37	16.80	18.50	30.07	9.02	10.72	24.02	18.23	19.93
Distance	-8.64	-8.64	-8.64	-8.64	-8.64	-8.64	-8.64	-8.64	-8.64
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	73.27	64.87	70.07	71.97	57.09	62.29	65.92	66.30	71.49

	DAY LEQ	75.37		EVENING LEQ	72.54		NIGHT LEQ	73.48	
	CNEL		80.33						

ADT	172500.00	#VALUE!			
SPEED	65.00				
DISTANCE	360.00				
		0.32			
% A	88.00	% DAY	75.54		*66.48*
		% EVENING	14.02		*12.34*
		% NIGHT	10.43		*9.18*
% MT	4.84	% DAY	48.00		*2.32*
		% EVENING	2.00		*0.10*
		% NIGHT	50.00		*2.42*
% HT	7.16	% DAY	48.00		*3.44*
		% EVENING	2.00		*0.14*
		% NIGHT	50.00		*3.58*
LEFT	-90.00				
RIGHT	90.00				
CNEL	80.33				
DAY LEQ	75.37				
Day hour	89.00				
Absorbtive?	no	TO TURN ON, COPY K2 TO J2			
Use hour?	no	TO TURN OFF, ENTER ADTS IN J2			
GRADE dB	0.00				

FHWA Sound32 Spreadsheet

Noise Analysis for Chiming Industrial

Existing Plus Project Traffic Noise - I-10 Freeway, East of Alabama Street

Closest Sensitive Receptor

	DAYTIME			EVENING			NIGHTTIME		
	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS
INPUT PARAMETERS									
Vehicles per hour	9559.71	334.00	494.20	7097.02	55.67	82.37	1759.91	463.89	686.39
Speed in MPH	65.00	65.00	65.00	65.00	65.00	65.00	65.00	65.00	65.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	75.54	81.71	85.21	75.54	81.71	85.21	75.54	81.71	85.21
ADJUSTMENTS									
Flow	31.37	16.80	18.50	30.08	9.02	10.72	24.02	18.23	19.93
Distance	-8.64	-8.64	-8.64	-8.64	-8.64	-8.64	-8.64	-8.64	-8.64
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	73.27	64.87	70.07	71.97	57.09	62.29	65.92	66.30	71.50

	DAY LEQ	75.37		EVENING LEQ	72.54		NIGHT LEQ	73.48	
	CNEL		80.33						

ADT	172567.00	#VALUE!		
SPEED	65.00			
DISTANCE	360.00			
		0.32		
% A	88.00	% DAY	75.54	66.48
		% EVENING	14.02	12.34
		% NIGHT	10.43	9.18
% MT	4.84	% DAY	48.00	2.32
		% EVENING	2.00	0.10
		% NIGHT	50.00	2.42
% HT	7.16	% DAY	48.00	3.44
		% EVENING	2.00	0.14
		% NIGHT	50.00	3.58
LEFT	-90.00			
RIGHT	90.00			
CNEL	80.33			
DAY LEQ	75.37			
Day hour	89.00			
Absorbtive?	no	TO TURN ON, COPY K2 TO J2		
Use hour?	no	TO TURN OFF, ENTER ADTS IN J2		
GRADE dB	0.00			

FHWA Sound32 Spreadsheet

Noise Analysis for Chiming Industrial

Existing Traffic Noise - I-10 Freeway, Nevada Street to Alabama Street

Closest Sensitive Receptor

	DAYTIME			EVENING			NIGHTTIME		
	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS
INPUT PARAMETERS									
Vehicles per hour	10336.89	361.26	534.42	7673.99	60.21	89.07	1902.99	501.75	742.25
Speed in MPH	65.00	65.00	65.00	65.00	65.00	65.00	65.00	65.00	65.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	75.54	81.71	85.21	75.54	81.71	85.21	75.54	81.71	85.21
ADJUSTMENTS									
Flow	31.71	17.14	18.84	30.42	9.36	11.06	24.36	18.57	20.27
Distance	-6.40	-6.40	-6.40	-6.40	-6.40	-6.40	-6.40	-6.40	-6.40
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	75.85	67.45	72.65	74.55	59.67	64.87	68.50	68.88	74.07

	DAY LEQ	77.95		EVENING LEQ	75.12		NIGHT LEQ	76.06	
	CNEL		82.91						

ADT	186600.00	#VALUE!			
SPEED	65.00				
DISTANCE	215.00				
		0.32			
% A	88.00	% DAY	75.54		*66.48*
		% EVENING	14.02		*12.34*
		% NIGHT	10.43		*9.18*
% MT	4.84	% DAY	48.00		*2.32*
		% EVENING	2.00		*0.10*
		% NIGHT	50.00		*2.42*
% HT	7.16	% DAY	48.00		*3.44*
		% EVENING	2.00		*0.14*
		% NIGHT	50.00		*3.58*
LEFT	-90.00				
RIGHT	90.00				
CNEL	82.91				
DAY LEQ	77.95				
Day hour	89.00				
Absorbtive?	no	TO TURN ON, COPY K2 TO J2			
Use hour?	no	TO TURN OFF, ENTER ADTS IN J2			
GRADE dB	0.00				

FHWA Sound32 Spreadsheet

Noise Analysis for Chiming Industrial

Existing Plus Project Traffic Noise - I-10 Freeway, Nevada Street to Alabama Street

Closest Sensitive Receptor

	DAYTIME			EVENING			NIGHTTIME		
	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS
INPUT PARAMETERS									
Vehicles per hour	10342.18	361.30	534.58	7677.91	60.22	89.10	1903.96	501.80	742.48
Speed in MPH	65.00	65.00	65.00	65.00	65.00	65.00	65.00	65.00	65.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	75.54	81.71	85.21	75.54	81.71	85.21	75.54	81.71	85.21
ADJUSTMENTS									
Flow	31.71	17.14	18.85	30.42	9.36	11.06	24.36	18.57	20.27
Distance	-6.40	-6.40	-6.40	-6.40	-6.40	-6.40	-6.40	-6.40	-6.40
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	75.85	67.45	72.65	74.55	59.67	64.87	68.50	68.88	74.08

	DAY LEQ	77.95		EVENING LEQ	75.12		NIGHT LEQ	76.06	
	CNEL		82.91						

ADT	186689.00	#VALUE!	
SPEED	65.00		
DISTANCE	215.00		
		0.32	
% A	88.00	% DAY	75.54 66.48
		% EVENING	14.02 12.34
		% NIGHT	10.43 9.18
% MT	4.84	% DAY	48.00 2.32
		% EVENING	2.00 0.10
		% NIGHT	50.00 2.42
% HT	7.16	% DAY	48.00 3.44
		% EVENING	2.00 0.14
		% NIGHT	50.00 3.58
LEFT	-90.00		
RIGHT	90.00		
CNEL	82.91		
DAY LEQ	77.95		
Day hour	89.00		
Absorbtive?	no	TO TURN ON, COPY K2 TO J2	
Use hour?	no	TO TURN OFF, ENTER ADTS IN J2	
GRADE dB	0.00		

FHWA Sound32 Spreadsheet

Noise Analysis for Continental Villages

Existing Traffic Noise - I-10 Freeway, West of California Street

Closest Sensitive Receptor

	DAYTIME			EVENING			NIGHTTIME		
	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS
INPUT PARAMETERS									
Vehicles per hour	10525.24	367.84	544.24	7813.81	61.31	90.71	1937.66	510.89	755.88
Speed in MPH	65.00	65.00	65.00	65.00	65.00	65.00	65.00	65.00	65.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	75.54	81.71	85.21	75.54	81.71	85.21	75.54	81.71	85.21
ADJUSTMENTS									
Flow	31.79	17.22	18.92	30.49	9.44	11.14	24.44	18.65	20.35
Distance	-9.51	-9.51	-9.51	-9.51	-9.51	-9.51	-9.51	-9.51	-9.51
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	72.81	64.42	69.62	71.52	56.64	61.83	65.46	65.84	71.04

DAY LEQ	74.92	EVENING LEQ	72.09	NIGHT LEQ	73.03	
CNEL		79.88				

ADT	190000	#VALUE!			
SPEED	65.00				
DISTANCE	440.00				
		0.32			
% A	88.00	% DAY	75.54		66.48
		% EVENING	14.02		12.34
		% NIGHT	10.43		9.18
% MT	4.84	% DAY	48.00		2.32
		% EVENING	2.00		0.10
		% NIGHT	50.00		2.42
% HT	7.16	% DAY	48.00		3.44
		% EVENING	2.00		0.14
		% NIGHT	50.00		3.58
LEFT	-90.00				
RIGHT	90.00				
CNEL	79.88				
DAY LEQ	74.92				
Day hour	89.00				
Absorbtive?	no	TO TURN ON, COPY K2 TO J2			
Use hour?	no	TO TURN OFF, ENTER ADTS IN J2			
GRADE dB	0.00				

FHWA Sound32 Spreadsheet

Noise Analysis for Continental Villages

Existing Plus Project Traffic Noise - I-10 Freeway, West of California Street

Closest Sensitive Receptor

	DAYTIME			EVENING			NIGHTTIME							
	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	ADT	190137	#VALUE!		
										SPEED	65.00			
										DISTANCE	440.00			
INPUT PARAMETERS												0.32		
Vehicles per hour	10530.53	368.20	546.00	7817.74	61.37	91.00	1938.64	511.39	758.33	% A	87.98	% DAY	75.54	66.46
Speed in MPH	65.00	65.00	65.00	65.00	65.00	65.00	65.00	65.00	65.00			% EVENING	14.02	12.33
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00			% NIGHT	10.43	9.18
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	% MT	4.84	% DAY	48.00	2.32
												% EVENING	2.00	0.10
NOISE CALCULATIONS												% NIGHT	50.00	2.42
Reference levels	75.54	81.71	85.21	75.54	81.71	85.21	75.54	81.71	85.21	% HT	7.18	% DAY	48.00	3.45
												% EVENING	2.00	0.14
ADJUSTMENTS												% NIGHT	50.00	3.59
Flow	31.79	17.23	18.94	30.50	9.44	11.16	24.44	18.65	20.36					
Distance	-9.51	-9.51	-9.51	-9.51	-9.51	-9.51	-9.51	-9.51	-9.51	LEFT	-90.00			
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	RIGHT	90.00			
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	CNEL	79.88			
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	DAY LEQ	74.92			
LEQ	72.82	64.42	69.63	71.52	56.64	61.85	65.47	65.85	71.06	Day hour	89.00			
										Absorbtive?	no	TO TURN ON, COPY K2 TO J2		
	DAY LEQ	74.92		EVENING LEQ	72.09		NIGHT LEQ	73.04		Use hour?	no	TO TURN OFF, ENTER ADTS IN J2		
										GRADE dB	0.00			
	CNEL		79.88											

FHWA Sound32 Spreadsheet

Noise Analysis for Continental Villages

Existing Traffic Noise - Lugonia Avenue, East of Alabama Street

Closest Sensitive Receptor

	DAYTIME			EVENING			NIGHTTIME		
	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS
INPUT PARAMETERS									
Vehicles per hour	984.54	20.40	34.00	730.91	3.40	5.67	181.25	28.33	47.22
Speed in MPH	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	67.36	76.31	81.16	67.36	76.31	81.16	67.36	76.31	81.16
ADJUSTMENTS									
Flow	23.61	6.77	8.99	22.31	-1.01	1.21	16.26	8.20	10.42
Distance	-1.21	-1.21	-1.21	-1.21	-1.21	-1.21	-1.21	-1.21	-1.21
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	64.76	56.87	63.94	63.46	49.09	56.16	57.41	58.30	65.37

	DAY LEQ	67.75		EVENING LEQ	64.34		NIGHT LEQ	66.69	
	CNEL		73.33						

ADT	17000.00	#VALUE!	
SPEED	40.00		
DISTANCE	65.00		
		0.32	
% A	92.00	% DAY	75.54 69.50
		% EVENING	14.02 12.90
		% NIGHT	10.43 9.60
% MT	3.00	% DAY	48.00 1.44
		% EVENING	2.00 0.06
		% NIGHT	50.00 1.50
% HT	5.00	% DAY	48.00 2.40
		% EVENING	2.00 0.10
		% NIGHT	50.00 2.50
LEFT	-90.00		
RIGHT	90.00		
CNEL	73.33		
DAY LEQ	67.75		
Day hour	89.00		
Absorbtive?	no	TO TURN ON, COPY K2 TO J2	
Use hour?	no	TO TURN OFF, ENTER ADTS IN J2	
GRADE dB	0.00		

FHWA Sound32 Spreadsheet

Noise Analysis for Continental Villages

Existing Plus Project Traffic Noise - Lugonia Avenue, East of Alabama Street

Closest Sensitive Receptor

	DAYTIME			EVENING			NIGHTTIME		
	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS
INPUT PARAMETERS									
Vehicles per hour	985.86	20.40	34.00	731.89	3.40	5.67	181.49	28.33	47.22
Speed in MPH	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	67.36	76.31	81.16	67.36	76.31	81.16	67.36	76.31	81.16
ADJUSTMENTS									
Flow	23.61	6.77	8.99	22.32	-1.01	1.21	16.26	8.20	10.42
Distance	-1.21	-1.21	-1.21	-1.21	-1.21	-1.21	-1.21	-1.21	-1.21
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	64.76	56.87	63.94	63.47	49.09	56.16	57.41	58.30	65.37

DAY LEQ	67.75	EVENING LEQ	64.34	NIGHT LEQ	66.69	
CNEL	73.34					

ADT	17021.00	#VALUE!			
SPEED	40.00				
DISTANCE	65.00				
		0.32			
% A	92.01	% DAY	75.54	*69.50*	
		% EVENING	14.02	*12.90*	
		% NIGHT	10.43	*9.60*	
% MT	3.00	% DAY	48.00	*1.44*	
		% EVENING	2.00	*0.06*	
		% NIGHT	50.00	*1.50*	
% HT	4.99	% DAY	48.00	*2.40*	
		% EVENING	2.00	*0.10*	
		% NIGHT	50.00	*2.50*	
LEFT	-90.00				
RIGHT	90.00				
CNEL	73.34				
DAY LEQ	67.75				
Day hour	89.00				
Absorbtive?	no	TO TURN ON, COPY K2 TO J2			
Use hour?	no	TO TURN OFF, ENTER ADTS IN J2			
GRADE dB	0.00				

FHWA Sound32 Spreadsheet

Noise Analysis for Continental Villages

Existing Traffic Noise - Nevada Street, South of Lugonia Avenue

Closest Sensitive Receptor

	DAYTIME			EVENING			NIGHTTIME		
	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS
INPUT PARAMETERS									
Vehicles per hour	434.36	9.00	15.00	322.46	1.50	2.50	79.96	12.50	20.83
Speed in MPH	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	67.36	76.31	81.16	67.36	76.31	81.16	67.36	76.31	81.16
ADJUSTMENTS									
Flow	20.05	3.22	5.43	18.76	-4.57	-2.35	12.70	4.64	6.86
Distance	-3.08	-3.08	-3.08	-3.08	-3.08	-3.08	-3.08	-3.08	-3.08
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	59.33	51.45	58.51	58.04	43.67	50.73	51.98	52.88	59.94

	DAY LEQ	62.32		EVENING LEQ	58.91		NIGHT LEQ	61.26	
	CNEL		67.91						

ADT	7500.00	#VALUE!			
SPEED	40.00				
DISTANCE	100.00				
		0.32			
% A	92.00	% DAY	75.54	69.50	
		% EVENING	14.02	12.90	
		% NIGHT	10.43	9.60	
% MT	3.00	% DAY	48.00	1.44	
		% EVENING	2.00	0.06	
		% NIGHT	50.00	1.50	
% HT	5.00	% DAY	48.00	2.40	
		% EVENING	2.00	0.10	
		% NIGHT	50.00	2.50	
LEFT	-90.00				
RIGHT	90.00				
CNEL	67.91				
DAY LEQ	62.32				
Day hour	89.00				
Absorbtive?	no	TO TURN ON, COPY K2 TO J2			
Use hour?	no	TO TURN OFF, ENTER ADTS IN J2			
GRADE dB	0.00				

FHWA Sound32 Spreadsheet

Noise Analysis for Continental Villages

Existing Plus Project Traffic Noise - Nevada Street, South of Lugonia Avenue

Closest Sensitive Receptor

	DAYTIME			EVENING			NIGHTTIME		
	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS
INPUT PARAMETERS									
Vehicles per hour	437.00	9.00	15.00	324.42	1.50	2.50	80.45	12.50	20.83
Speed in MPH	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	67.36	76.31	81.16	67.36	76.31	81.16	67.36	76.31	81.16
ADJUSTMENTS									
Flow	20.08	3.22	5.43	18.78	-4.57	-2.35	12.73	4.64	6.86
Distance	-3.08	-3.08	-3.08	-3.08	-3.08	-3.08	-3.08	-3.08	-3.08
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	59.36	51.45	58.51	58.06	43.67	50.73	52.01	52.88	59.94
	DAY LEQ	62.34		EVENING LEQ	58.93		NIGHT LEQ	61.27	
	CNEL		67.91						

ADT	7542.00	#VALUE!			
SPEED	40.00				
DISTANCE	100.00				
			0.32		
% A	92.04	% DAY	75.54	*69.53*	
		% EVENING	14.02	*12.90*	
		% NIGHT	10.43	*9.60*	
% MT	2.98	% DAY	48.00	*1.43*	
		% EVENING	2.00	*0.06*	
		% NIGHT	50.00	*1.49*	
% HT	4.97	% DAY	48.00	*2.39*	
		% EVENING	2.00	*0.10*	
		% NIGHT	50.00	*2.49*	
LEFT	-90.00				
RIGHT	90.00				
CNEL	67.91				
DAY LEQ	62.34				
Day hour	89.00				
Absorbtive?	no	TO TURN ON, COPY K2 TO J2			
Use hour?	no	TO TURN OFF, ENTER ADTS IN J2			
GRADE dB	0.00				

FHWA Sound32 Spreadsheet

Noise Analysis for Continental Villages

Existing Traffic Noise - San Bernardino Avenue, East of Alabama Street

Closest Sensitive Receptor

	DAYTIME			EVENING			NIGHTTIME		
	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS
INPUT PARAMETERS									
Vehicles per hour	810.80	16.80	28.00	601.93	2.80	4.67	149.26	23.33	38.89
Speed in MPH	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	71.12	78.79	83.02	71.12	78.79	83.02	71.12	78.79	83.02
ADJUSTMENTS									
Flow	21.79	4.96	7.18	20.50	-2.82	-0.61	14.44	6.38	8.60
Distance	-2.62	-2.62	-2.62	-2.62	-2.62	-2.62	-2.62	-2.62	-2.62
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	65.29	56.13	62.57	64.00	48.35	54.79	57.94	57.56	64.00

	DAY LEQ	67.48		EVENING LEQ	64.59		NIGHT LEQ	65.69	
	CNEL		72.51						

ADT	14000.00	#VALUE!				
SPEED	50.00					
DISTANCE	90.00					
		0.32				
% A	92.00	% DAY	75.54	69.50		
		% EVENING	14.02	12.90		
		% NIGHT	10.43	9.60		
% MT	3.00	% DAY	48.00	1.44		
		% EVENING	2.00	0.06		
		% NIGHT	50.00	1.50		
% HT	5.00	% DAY	48.00	2.40		
		% EVENING	2.00	0.10		
		% NIGHT	50.00	2.50		
LEFT	-90.00					
RIGHT	90.00					
CNEL	72.51					
DAY LEQ	67.48					
Day hour	89.00					
Absorbtive?	no	TO TURN ON, COPY K2 TO J2				
Use hour?	no	TO TURN OFF, ENTER ADTS IN J2				
GRADE dB	0.00					

FHWA Sound32 Spreadsheet

Noise Analysis for Continental Villages

Existing Plus Project Traffic Noise - San Bernardino Avenue, East of Alabama Street

Closest Sensitive Receptor

	DAYTIME			EVENING			NIGHTTIME		
	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS
INPUT PARAMETERS									
Vehicles per hour	814.70	17.00	28.88	604.82	2.83	4.81	149.98	23.61	40.11
Speed in MPH	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	71.12	78.79	83.02	71.12	78.79	83.02	71.12	78.79	83.02
ADJUSTMENTS									
Flow	21.81	5.01	7.31	20.52	-2.77	-0.47	14.46	6.44	8.74
Distance	-2.62	-2.62	-2.62	-2.62	-2.62	-2.62	-2.62	-2.62	-2.62
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	65.31	56.18	62.71	64.02	48.40	54.93	57.96	57.61	64.13
	DAY LEQ	67.54		EVENING LEQ	64.63		NIGHT LEQ	65.79	
	CNEL		72.60						

ADT	14089.00	#VALUE!		
SPEED	50.00			
DISTANCE	90.00			
		0.32		
% A	91.86	% DAY	75.54	*69.39*
		% EVENING	14.02	*12.88*
		% NIGHT	10.43	*9.58*
% MT	3.02	% DAY	48.00	*1.45*
		% EVENING	2.00	*0.06*
		% NIGHT	50.00	*1.51*
% HT	5.12	% DAY	48.00	*2.46*
		% EVENING	2.00	*0.10*
		% NIGHT	50.00	*2.56*
LEFT	-90.00			
RIGHT	90.00			
CNEL	72.60			
DAY LEQ	67.54			
Day hour	89.00			
Absorbtive?	no	TO TURN ON, COPY K2 TO J2		
Use hour?	no	TO TURN OFF, ENTER ADTS IN J2		
GRADE dB	0.00			

FHWA Sound32 Spreadsheet

Noise Analysis for Continental Villages

Existing Traffic Noise - San Bernardino Avenue, Nevada Street to Alabama Street

Closest Sensitive Receptor

	DAYTIME			EVENING			NIGHTTIME		
	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS
INPUT PARAMETERS									
Vehicles per hour	793.42	16.44	27.40	589.03	2.74	4.57	146.07	22.83	38.06
Speed in MPH	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	69.34	77.62	82.14	69.34	77.62	82.14	69.34	77.62	82.14
ADJUSTMENTS									
Flow	22.16	5.32	7.54	20.86	-2.46	-0.24	14.81	6.75	8.97
Distance	-0.48	-0.48	-0.48	-0.48	-0.48	-0.48	-0.48	-0.48	-0.48
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	66.02	57.46	64.20	64.72	49.68	56.42	58.67	58.89	65.62

	DAY LEQ	68.56		EVENING LEQ	65.44		NIGHT LEQ	67.13	
	CNEL		73.86						

ADT	13700.00	#VALUE!			
SPEED	45.00				
DISTANCE	55.00				
		0.32			
% A	92.00	% DAY	75.54	69.50	
		% EVENING	14.02	12.90	
		% NIGHT	10.43	9.60	
% MT	3.00	% DAY	48.00	1.44	
		% EVENING	2.00	0.06	
		% NIGHT	50.00	1.50	
% HT	5.00	% DAY	48.00	2.40	
		% EVENING	2.00	0.10	
		% NIGHT	50.00	2.50	
LEFT	-90.00				
RIGHT	90.00				
CNEL	73.86				
DAY LEQ	68.56				
Day hour	89.00				
Absorbtive?	no	TO TURN ON, COPY K2 TO J2			
Use hour?	no	TO TURN OFF, ENTER ADTS IN J2			
GRADE dB	0.00				

FHWA Sound32 Spreadsheet

Noise Analysis for Continental Villages

Existing Plus Project Traffic Noise - San Bernardino Avenue, Nevada Street to Alabama Street

Closest Sensitive Receptor

	DAYTIME			EVENING			NIGHTTIME		
	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS
INPUT PARAMETERS									
Vehicles per hour	794.74	16.56	27.92	590.01	2.76	4.65	146.31	23.00	38.78
Speed in MPH	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	69.34	77.62	82.14	69.34	77.62	82.14	69.34	77.62	82.14
ADJUSTMENTS									
Flow	22.16	5.35	7.62	20.87	-2.43	-0.16	14.81	6.78	9.05
Distance	-0.48	-0.48	-0.48	-0.48	-0.48	-0.48	-0.48	-0.48	-0.48
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	66.02	57.49	64.28	64.73	49.71	56.50	58.68	58.92	65.71
	DAY LEQ	68.60		EVENING LEQ	65.46		NIGHT LEQ	67.19	
	CNEL		73.92						

ADT	13737.00	#VALUE!	
SPEED	45.00		
DISTANCE	55.00		
		0.32	
% A	91.91	% DAY	75.54 *69.43*
		% EVENING	14.02 *12.89*
		% NIGHT	10.43 *9.59*
% MT	3.01	% DAY	48.00 *1.45*
		% EVENING	2.00 *0.06*
		% NIGHT	50.00 *1.51*
% HT	5.08	% DAY	48.00 *2.44*
		% EVENING	2.00 *0.10*
		% NIGHT	50.00 *2.54*
LEFT	-90.00		
RIGHT	90.00		
CNEL	73.92		
DAY LEQ	68.60		
Day hour	89.00		
Absorbtive?	no	TO TURN ON, COPY K2 TO J2	
Use hour?	no	TO TURN OFF, ENTER ADTS IN J2	
GRADE dB	0.00		

Kunzman Associates, Inc.

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