KUNZMAN ASSOCIATES, INC.

LING YEN MOUNTAIN TEMPLE

NOISE IMPACT ANALYSIS

August 7, 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

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 applicable noise applicable noise standards
- discussion of noise modeling methodology and procedures
- analysis of potential noise impacts associated with construction and operation of the proposed project
- discussion of the effects of project noise on nearby sensitive receptors
- recommendations of measures to reduce potential impacts

The County of San Bernardino is the lead agency responsible for preparation of this air quality analysis, in accordance with the California Environmental Quality Act authorizing legislation. 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 noise and vibration impact analysis, a definition of terms has been provided in Section II of this report.

B. Project Location

The Ling Yen Mountain Temple (LYMT), project site is located in the San Bernardino County unincorporated community of Etiwanda within the Sphere of Influence of the City of Rancho Cucamonga. LYMT is proposing to develop a Buddhist Temple and Retreat on approximately 35 acres generally south of the existing temple and west of Dawnridge Drive. Access to the site is at the terminus of Wardman Bullock Road, and is addressed as 13938 DeCliff Drive, an east-west trending road that traverses the Los Angeles Department of Water and Power (LADWP) power line easement. The project site has been the location of this LYMT temple since the early 1990's and is currently located in a converted 6,800 square foot residence at the northerly terminus of Wardman-Bullock Road, in the foothills of the San Gabriel Mountains. The vicinity map showing the project location is provided on Figure 1.

C. Project Description

LYMT is developing a Temple Campus Master Plan on approximately 35 acres including a 10.7-acre "buildable area" for a total of 159,377 square feet of habitable structures. The remaining 24.3 acres will be developed with non-habitable structures, roads, parking lots, gardens and other landscape/hardscape areas. The Campus Master Plan includes as a perimeter fuel modification zone because the project site is located within a High Fire Hazard Area where a fuel modification and maintenance program is required. The approximately 35-acre development site is divided into four Planning Areas for the purposes of site grading and development. Figure 2 illustrates the project site plan.

Planning Areas

Area 1 – 9.38 acres generally located between the property boundary on the west, limits of the "buildable area" on the north as defined in the site specific Fault Hazard Investigation, east side of Dawnridge Drive on the east, and on the south, the approximate location of the main internal fire access road across the center of the 35-acre development site.

Area 2 – 10.29 acres generally located between the property boundary on the west, limits of the "buildable area" on the south adjacent to the unnamed east-west access road, east side of Dawnridge Drive on the east, and on the north, the approximate location of the main internal fire access road across the center of 35-acre development site.

Area 3 – 9.49 acres generally located within the Los Angeles Department of Water and power line easement (LYMT is the underlying property owner).

Area 4 - 5.85 acres generally located north of the "buildable area" as defined in the site specific Fault Hazard Investigation, and south of the proposed northerly perimeter road that will connect the existing LYMT driveway on the west, to Dawnridge Drive on the east. This area is expected to be minimally graded to establish the road, some walking paths, some landscape areas and for fuel modification.

D. <u>Phasing and Timing</u>

Phase one (I) – Building Development in Area 1 and Infrastructure/Road Development

Initial Development (Phase one) of the LYMT Campus Master Plan includes the development of Area 1 which consists of 9.38 acres including, the northern 5.3-acre portion of the 10.7-acre "buildable area." Buildings in Phase one will total 65,138 square feet. As part of Phase one, the Entry Road (extension of Wardman Bullock Road), the east-west unnamed access road between Wardman Bullock Road and Dawnridge Drive, Dawnridge Drive, the connector road connecting the internal road on the west to Dawnridge Drive on the east, and the extension of Dawnridge Drive southerly to connect to Colonbero Road (emergency access only) will also be completed. In addition, fuel modification zones must be established around the perimeter of Area I, including establishing a fuel modification zone on the north side of Area 4. The total area of disturbance for Phase one will be approximately 16.5 acres, including grading of the 9.38-acre Planning Area 1. Phase one will also include parking to accommodate 58 vehicles in a parking lot at the northeast corner of Area 1 and on the west side of Planning Area 1 west of Building 23.

Because of the necessary road and infrastructure improvements that will be required in Phase one, this Phase is anticipated to begin construction no sooner than September 2015 and take approximately four (4) years. Grading, Road Development and Backbone Infrastructure for the site is anticipated to take up to six (6) months. Building Construction, Site Finishing including parking lots, internal circulation, and landscaping is anticipated to take 42 months for a total of four (4) years.

Phase two (II) – Grading and Building Development in Planning Area, 2 and Overflow Parking Lot in Planning Area 3

Similar to Phase one, mass grading and infrastructure development for the entire Area 2 will occur in Phase two, with precise grading of individual building pads and building related infrastructure being completed. Buildings in Phase two will total 53,142 square feet. Phase two also includes development of the Overflow Parking Lot in Planning Area 3. This parking area is approximately 9.49 acres. Therefore, total site disturbance in Phase two would be approximately 19.78 acres. Site grading will require an average of five (5) feet of over excavation across the planning areas to accommodate the loss of material (oversized boulders and rocks). Phase two is anticipated to also take 4 years to complete and will occur after Phase one construction is complete. Grading of Areas 2 and 3 is anticipated to take six (6) months to complete. Development of the parking lot is anticipated to be completed in four (4) months and this work will coincide with development in Area 2. Development of Area 2 includes Building Construction, Site Finishing including parking lots, internal circulation, landscaping and the development of the entry gates towers and main plaza is anticipated to take 42 months.

Phase three (III) – Development of remaining Buildings in Planning Areas 1 and 2 and Completion of Gardens and Walkways in Planning Area 4

In Phase three, all development of buildings is completed. These buildings will fill in between the buildings developed in Phase one and Phase two. Buildings in Phase three will total 41,097 square feet. Internal landscaping and sidewalks/ramps will also be completed. In Phase three, final grading and development of gardens, walking paths, seating areas, etc will be completed in Planning Area 4. Grading in Phase three is expected to be minimal (~5.84 acres) and associated with precise grading of the remaining building pads, and some grading associated with landscaping and creating of walking paths in Planning Area 4. Phase three is anticipated to take a total of two (2) years and will occur after Phase two is complete.

Figure 3, Phasing Plan, illustrates the Phases of the project and Planning Areas described above.

E. Project Operations

Activities at the proposed Temple will primarily include praying and indoor chanting. Other activities may include classes, meetings, ceremonies and retreats. Proposed uses for each building are presented in Table 1 and a typical event schedule is presented in Table 2. No outdoor amplification is proposed. There may be passive outdoor activities such as praying, meditation, meeting and eating. The only noise source that is expected to be audible at the nearest sensitive receptors include the large bell to be hung in the proposed bell tower and the drums that are to be located in the drum tower. The bell and drum would only be used during special occasions such as the welcoming of the Abbot or during large ceremonies.

When there are no ongoing events Temple gates are typically closed at 6:00 PM. Gates are closed at 10:00 PM during special events.

Table 1

Building Description and Purpose/Function

Building No.[1]	Building	Building Purpose	Notes
1	Gate	Traditional Chinese designed entrance gate with fixed hours of operation	
2	Maitreva Hall/ Veda Hall	Hall of the Maitreya Bodhisattva Hall of the Dharma Protector Vajrapani Bodhisattva	Entrance hall of the temple. Primarily a tourist site. Houses the Dharma guardian and "Smiling Buddha" for welcoming visitors.
3,4	Bell Tower/ Drum Tower	A large bell or drum is hung in the tower. The Buddhist instruments will only be used during special occasions such as the welcoming of the Abbot or during large ceremonies.	Not open to public.
5	Administration/Visitor Center	Administration office and information center.	App. 10 nuns running the office.
6	Classrooms/Library	Provides classes for studying Buddhist teachings and Chinese ethical philosophies. Library will provide thousands of copies of Buddhist literature and will be open to the public.Provides space for translation groups to meet.	Weekdays App. 20 people. Sunday when classes are in session: App. 200 people
7	Avaloktesvara Hall	Hall of the Avaloktesvara Bodhisattva of Great Compassion (Guan Yin Bodhisattva). Where guests pray for blessings and offer incense.	A tourist site. No ceremonies will be held in this hall.
8	Ksitigarbha Hall	Hall of the Ksitigarbha Bodhisattva of Great Vows (Earth Store Bodhisattva). Followers come here to pray for their ancestors or deceased relatives as a way of filial piety.	A tourist site. No ceremonies will be held in this hall.
9	Dining Hall	Provide dining for monastic residents and followers.	Typical day: App. 50 people Maximum capacity during events: 500 people
10	Buddha Hall	Hall of the Shakyamuni Buddha, the main hall of the temple. A place for gathering hundreds of followers during special ceremonies.	Not open to public, except during certain ceremonies. Maximum capacity: 500 people
11	Exhibition	Displays Buddhist historical relic and presenting a timeline of events in the establishment of the temple.	Provides guided tours. Maximum of 50 guests per hour.
12	Lecture Hall	Holds Buddhist lecture events and video/audio presentations, also a place for greeting group visitors.	Not open everyday. Maximum capacity: 250 people
13	Patriarch Hall	Paintings of Pureland Patriarchs are placed here in remembrance of their Buddhist teachings and virtues. Not opened to the public.	Not open to the public.
14	Scripture Hall	Enshrines Ancient Buddhist Scripture and many Buddhist Sutras.	Not open to the public.
15	Chanting Hall	Hall of the Three Sages of Western Pureland. Where monastic residents attend daily services and recite precepts. Chanting Dharma retreats for followers are also held in the chanting hall.	Services held on Sunday: App. 100 people Maximum capacity during retreats: 500 people
16	Wellness Hall	Plaques of the living are placed here. Guests can offer incense here to pray for good health and longevity.	Typicalday: 20 visitors
17	Memorial Hall	Plaques of the deceased are placed here. Guests come here to offer incense to their ancestors or deceased relatives. Transference of Merits ceremony also takes place here.	Typical day: 20 visitors
18	Disciple's Living Court (Men)	Provides short-term accommodation for male followers during Dharma Retreats or ceremonies.	Not open to public everyday, only during ceremonies. Must register ahead of time. Maximum capacity: 100 people
18	Disciple's Living Court(Women)	Provides short-term accommodation for female followers during Dharma Retreats or ceremonies.	Not open to public everyday, only during ceremonies. Must register ahead of time. Maximum capacity: 100 people (Restrictions apply)
19	Kitchen/Storage	Kitchen Facilities and large storage space.	Monastic resident access only.
20	VIP Living Court(Men)	Provides accommodation for important guests (male).	Maximum capacity: 10 people
21	Elder Monk Living Court A	Living court for elder monks.	Maximum capacity: 6 people
21	Elder Monk Living Court B	Living court for elder monks.	Maximum capacity: 6 people
22	Abbot Monk Living Court	Living court for the Abbot.	Maximum capacity: 6 people
23	Nun's Living Court	Living court for female monastic residents.	Maximum capacity: 40 people
24	VIP Living Court (Women)	Provides accommodation for important guests (female).	Maximum capacity: 10 people

Notes:

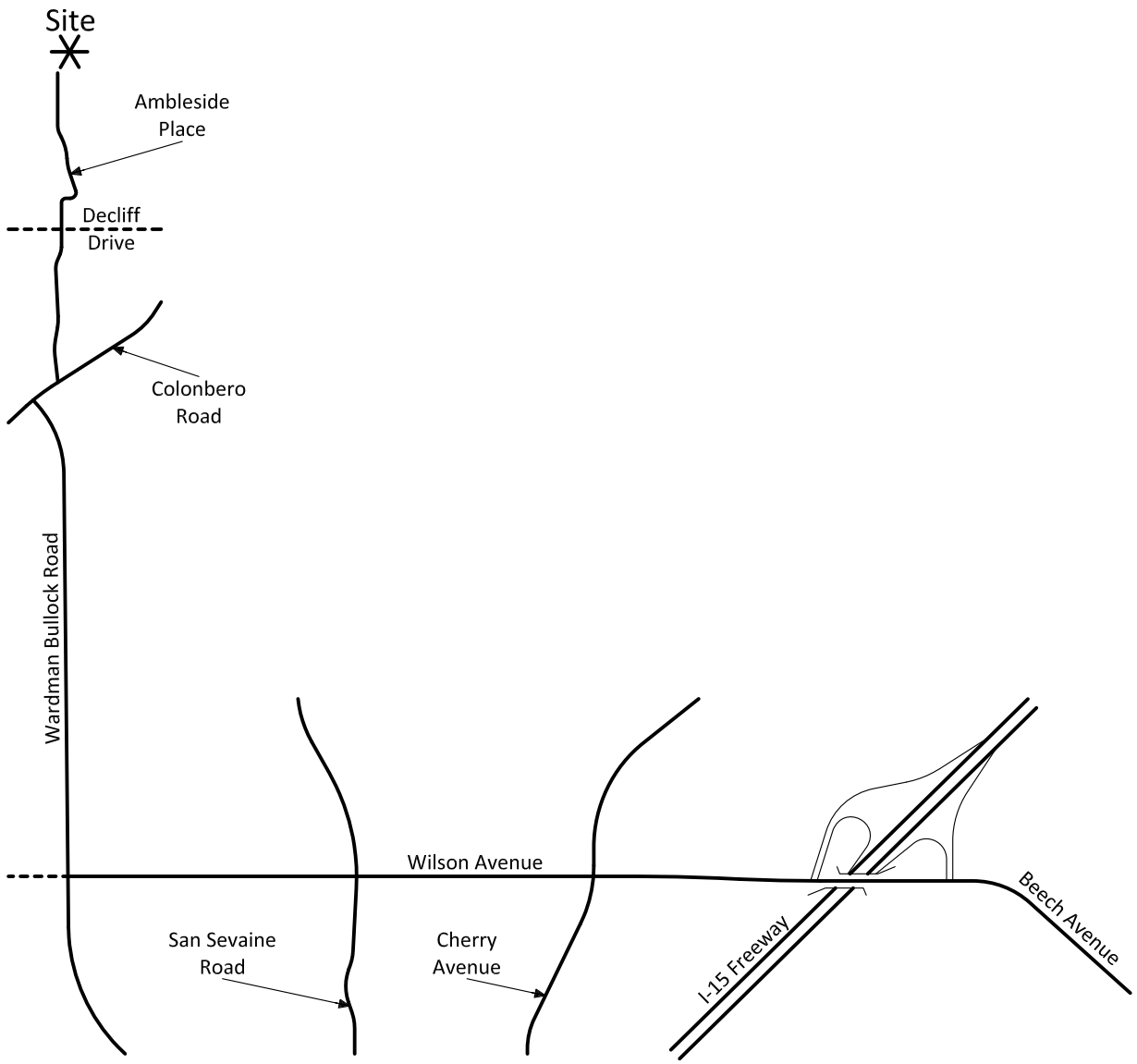
1. Table 1 represents the proposed order of building construction over a 10-year building period.
2. Phase 1 development follows the mass grading and infrastructure development for Area 1.
3. The Wellness Hall and Memorial Hall are integrated into the Chanting Hall and the three structures are actually one building. They are identified separately for design programming only.
4. The Chanting Hall, Memorial Hall and Wellness Hall will all require a Major Variance for height.
5. Buddha Hall is proposed to be 85 feet to allow the large statue to be placed at a height befitting the Buddha's importance. The Buddha Hall will also require a Major Variance for height.
6. Phase 2 development follows the mass grading and infrastructure development for Area 2.
7. Phase 3 includes the completion of building development within Area 1 and Area 2 which will already have been mass graded and infrastructure constructed.
8. The Exhibition Hall and Lecture Hall are one building

Table 2

Event Participant Chart

Content	Number of Days	Current		Future	
		Participant	Accommodation Required	Participant	Accommodation Required
New Year's Eve Volunteer Appreciation Event	1	250	0	500	0
Ringing the Bell Blessing Service, Chinese New Year's Eve	3	100	5	500	30
Water Samadhi Repentance Service	2	55	10	300	100
Guan Yin Dharma Service	7	60	12	200	60
Guan Yin Dharma Service	7	60	4	200	40
Bathing the Buddha Festival and Promoting Vegetarianism	1	150	0	500	0
Sakyamuni Buddha Service	2	60	5	150	20
Amitabha Chanting Retreat	3	60	6	120	20
Amitabha Chanting Retreat	7	80	12	200	30
Great Compassion Mantra Retreat	3	70	10	120	20
Great Compassion Mantra Retreat	7	80	24	300	100
Sangha Offering Service	1	180	0	300	0
Ksitigarbha Dharma Service	7	120	21	200	60
Guan Yin Dharma Service	7	80	10	150	20
Amitabha Chanting Retreat	7	80	12	200	60
Emperor Liang's Jewel Repentance Service & Thrice Yearning Ceremony	11	120	30	500	100

Figure 1
Project Location Map



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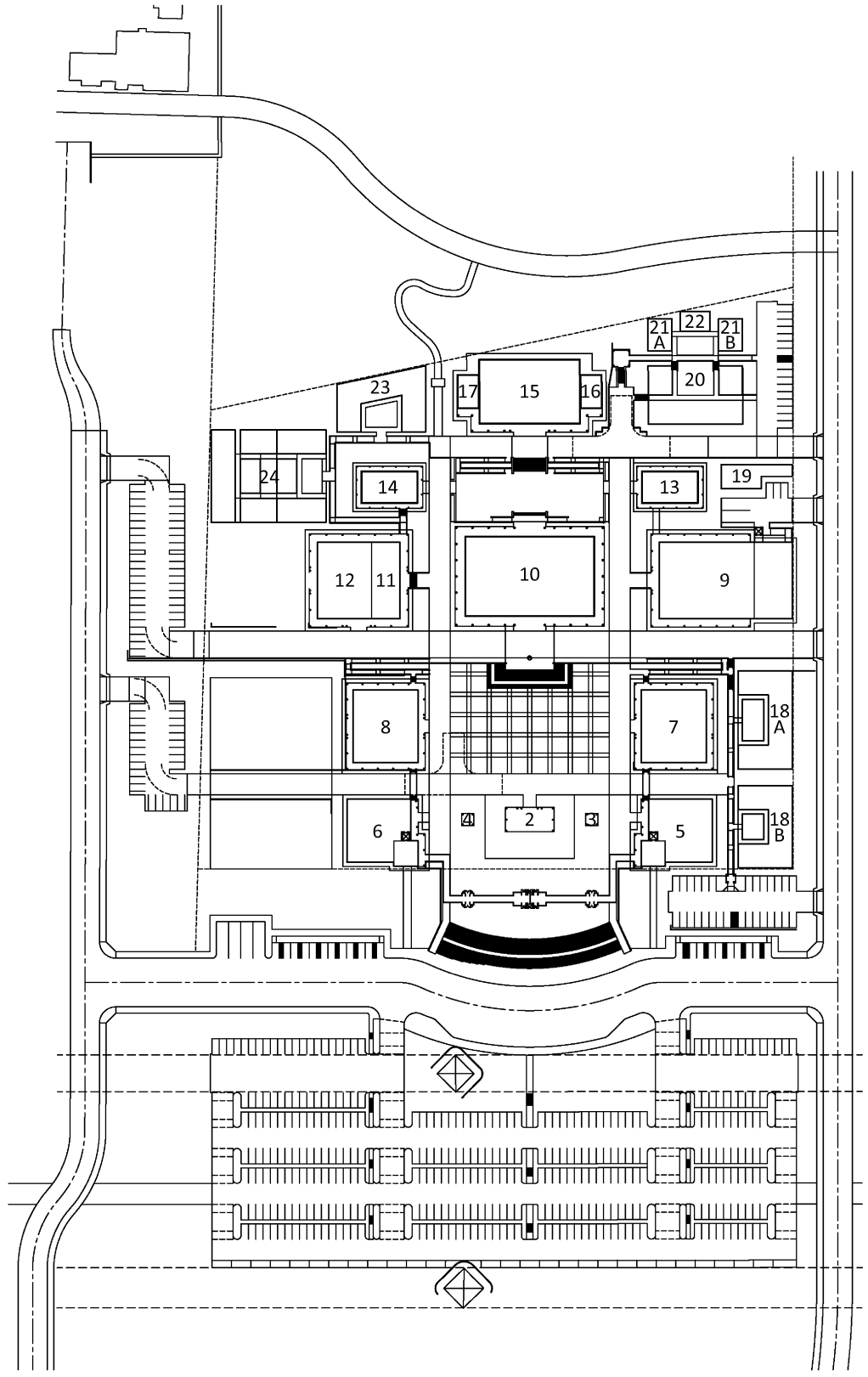
OVER 35 YEARS OF EXCELLENT SERVICE

Figure 2
Proposed Site Plan



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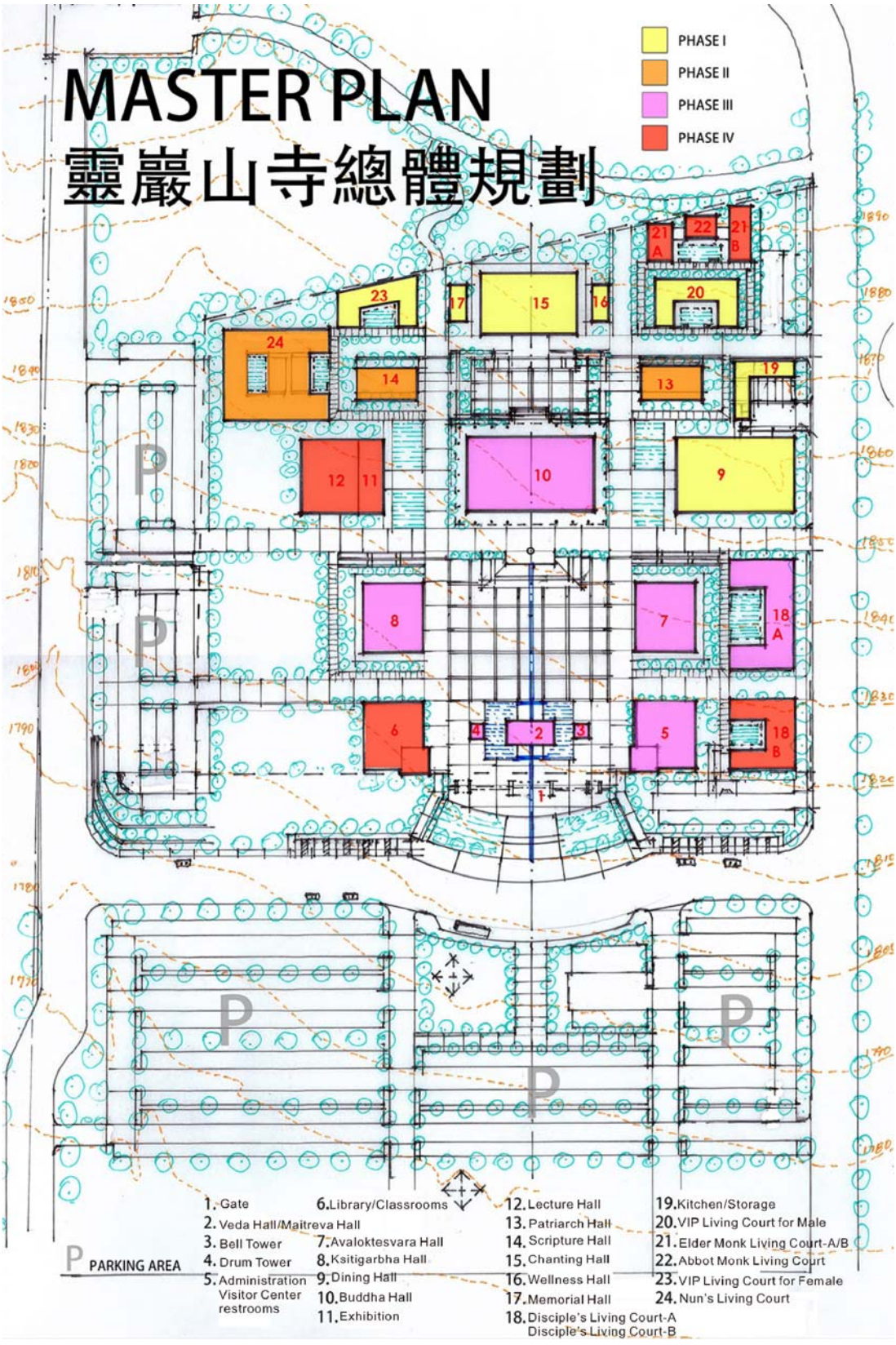
OVER 35 YEARS OF EXCELLENT SERVICE

Figure 3
Proposed Phasing Plan



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II. Existing Setting

A. Noise Levels

An existing ambient noise level measurement was taken consistent with requirements outlined in Section 83.01.080 of the San Bernardino Development Code. A Larson Davis model LxT sound level meter was used to take one 15-minute ambient noise measurement (see Figure 4) between 3:10 PM to 3:25 PM on June 6, 2014. A 15-minute increment of time is often used to obtain ambient measurements in acoustical studies to represent noise sources that are relatively stable. Ambient noise levels are presented in Table 3, and measurement output data is included within Appendix A.

B. Sensitive Receptors

The State of California defines sensitive receptors as those land uses that require serenity or are otherwise adversely affected by noise events or conditions. Many of these facilities depend on low levels of sound to promote the well-being of the occupants. These facilities include, but are not necessarily limited to; schools, hospitals, rest homes, long term care facilities, mental health facilities, residential uses, places of worship, libraries, and passive recreation areas. For the purposes of this analysis, the existing single family residential units located directly south of the project site are considered sensitive receptors.

The nearest sensitive receptors to the project site are the single-family detached residential dwelling units located approximately 400 feet (212 meters) south of the site. There is also an existing residence (converted from a residence to the existing LYMT) on the grounds that is about 400 feet to the north of the area of activity.

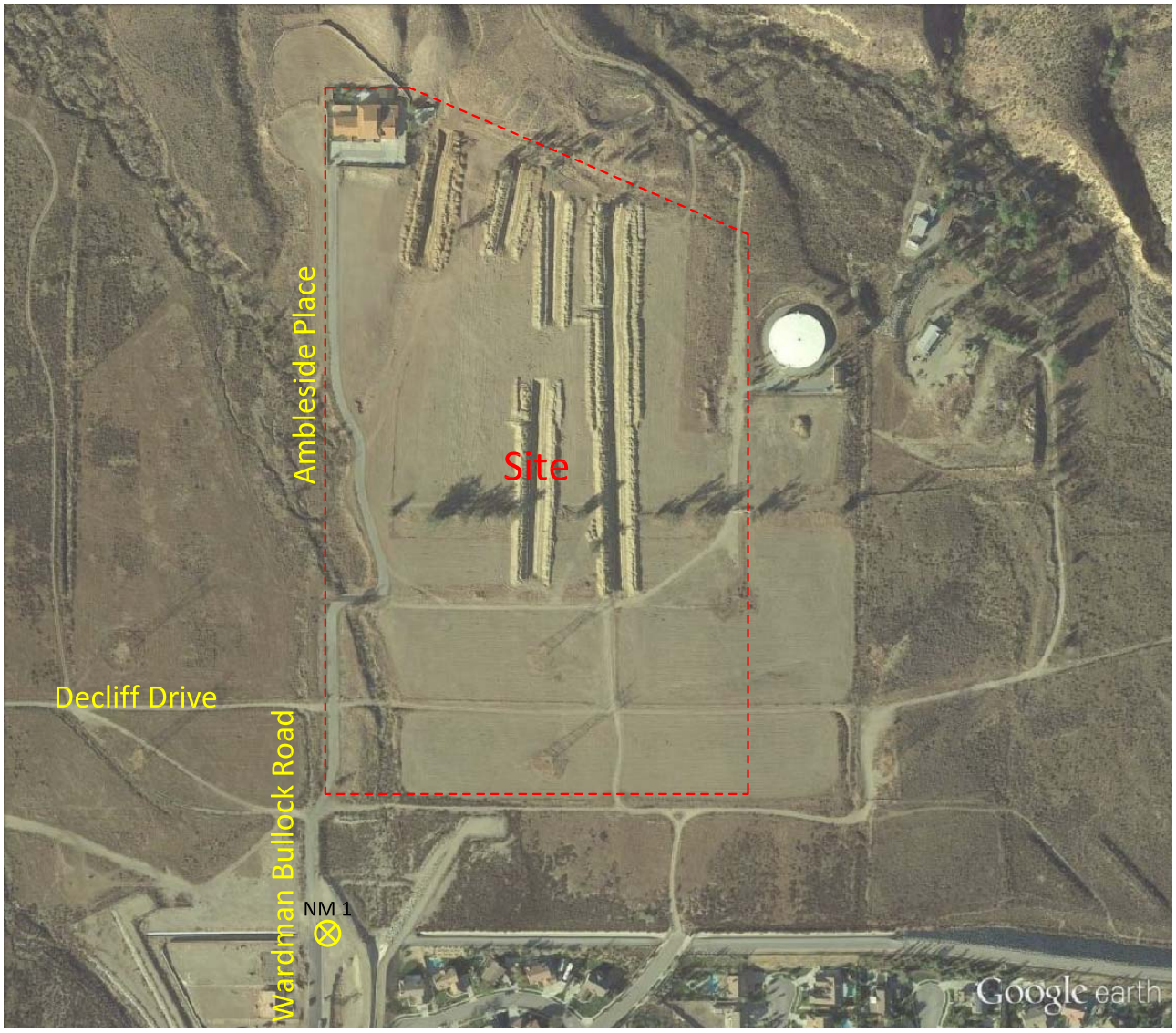
Table 3

Ambient Noise Levels[1]

Name	Type	Time Period	Measurement Period	Description	Existing Ambient Noise Levels (dBA)					
					L_{eq}	L_{max}	L_2	L_8	L_{25}	L_{50}
NM1	Ambient	3:10 PM - 3:25 PM	15 min	Noise sources included distant vehicle traffic, wind and birds	39.3	49.0	45.3	42.4	40.0	37.8

[1] Source: Site Visit, Kunzman Associates, Inc. June 6, 2014)

Figure 4
Noise Measurement Locations



Legend

⊗ = Noise Measurement Location

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III. Definition of Terms

A. Noise Terminology

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 4. 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. Table 5 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 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.

Table 4

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.

Table 5

Common Noise Sources and Noise Levels[1]

Noise Source (at a Given Distance)	Scale of A-Weighted Sound Level in Decibels	Noise Environment	Human Judgment of Noise Loudness (Relative to a Reference Loudness of 70 Decibels*)
Military Jet Take-off with Afterburner (50 ft) Civil Defense Siren (100 ft)	130	Carrier Flight Deck	**Threshold of Pain** *32 times as loud
Commercial Jet Take-off (200 ft)	120	Airport Runway	*16 times as loud
Pile Driver (50 ft)	110	Rock Music Concert	**Very Loud** *8 times as loud
Ambulance Sire (100 ft) Newspaper Press (5ft) Power Lawn Mower (3 ft)	100	Boiler Room Printing Press Plant	* 4 times as loud
Motorcycle (25 ft) Propeller Plane Flyover (1,000 ft) Diesel Truck, 40 mph (50 ft)	90		
Garbage Disposal (3 ft)	80	High Urban Ambient Sound	*2 times as loud
Passenger Car, 65 mph (25 ft) Living Room Stereo (15 ft) Vacuum Cleaner (3 ft) Electronic Typewriter (10 ft)	70	Busy Shopping Mall Indoor Sports Park	**Moderately Loud** *70 dB (Reference Loudness)
Normal Conversation (5 ft) Air Conditioning Unit (100 ft)	60	Data Processing Center Department Store	*1/2 as loud
Light Traffic (100 ft)	50	Private Business Office	*1/4 as loud
Bird Calls (distant)	40	Lower Limit of Urban Ambient Sound	**Quiet** *1/8 as loud
Soft Whisper (5 ft)	30	Rural Residential Area	
	20	Quiet Bedroom	**Just Audible**
	10		**Threshold of Hearing**

[1] Bolt, Baranek, and Newman, 1971. Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances. 1971.

IV. Analytical Methodology and Model Parameters

A. Noise Modeling and Input

1. 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.

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

Existing and Existing Plus Project noise levels were modeled for affected nearby road segments utilizing the FHWA Traffic Noise Prediction Model - FHWA-RD-77-108 in order to quantify the proposed project's contribution to increases in ambient noise levels.

The FHWA Traffic Noise Prediction Model arrives at a predicted noise level through a series of adjustments to the Reference Energy Mean Emission Level (REMEL). 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 buildings were not accounted for in this analysis.

Vehicle/truck mixes and Day/Evening/Night (D/E/N) splits for use in acoustical studies as published by the Riverside County Department of Industrial Hygiene (2009) were utilized for these noise modeling worksheets. Existing Plus Project vehicle mixes were calculated by adding the proposed project trips to existing conditions.

3. SoundPLAN

The SoundPLAN program, a three-dimensional noise modeling program, was utilized to calculate how loud the proposed large bell and drums located in the towers could be without exceeding applicable standards during a large event (parking lot noise was included). SoundPLAN utilizes FHWA algorithms, ground topographical data, existing and proposed barriers, meteorological data, and receiver locations to create noise contours and to calculate future noise levels at specific points.

V. Applicable Standards and Guidelines

A. Federal Regulations

1. Federal Noise Control Act of 1972

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

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

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

2. Federal Transit Administration

The Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual (2006) provides guidance for the analysis of noise and vibration associated with federally-funded transit projects. Section 7 of the manual discusses basic ground-borne vibration concepts including terminology, applicable descriptors, analysis procedures, thresholds and recommended mitigation for groundborne noise and vibration. Groundborne vibration thresholds included in this manual are frequently utilized for state and local projects where local thresholds for the analysis of groundborne noise and vibration have not been adopted. The FTA's maximum acceptable vibration standard for human annoyance in residences where people normally sleep is 80 VdB (less than 70 vibration events per day).

B. State Regulations

1. State of California General Plan Guidelines (2003)

Though not adopted by law, the State of California General Plan Guidelines 2003, published by the California Governor's Office of Planning and Research provides guidance for the compatibility of projects within areas of specific noise exposure. The OPR Guidelines identify the suitability of various types of construction relative to a range of outdoor noise levels and provide each local community some flexibility in setting local noise standards that allow for the variability in community preferences. Findings presented in the Levels of Environmental Noise Document (EPA 1974) influenced the recommendations of the OPR Guidelines, most importantly in the choice of noise exposure metrics (i.e., Ldn or CNEL) and in the upper limits for the normally acceptable outdoor exposure of noise-sensitive uses.

The OPR Guidelines include a Noise and Land Use Compatibility Matrix shown in **Error! Reference source not found.**, identifies acceptable and unacceptable community noise exposure limits for various land use categories. Where the "normally acceptable" range is used, it is defined as the highest noise level that should be considered for the construction of the buildings which do not incorporate any special acoustical treatment or noise mitigation. The "conditionally acceptable" or "normally unacceptable" ranges include conditions calling for detailed acoustical study or construction mitigation to reduce interior exposure levels prior to the construction or operation of the building under the listed exposure levels. Churches are considered normally acceptable in areas where exterior noise levels do not exceed 60 dBA CNEL and are considered to be conditionally acceptable in areas with exterior noise levels that reach up to 70 dBA CNEL. In areas where the noise level exceeds 60 dBA CNEL, new construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice. Outdoor environment will seem noisy.

2. California Environmental Quality Act

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 California Environmental Quality Act does not recognize an official numerical increase as a "substantial increase". Industry-accepted standards for what is considered to be a "substantial increase" range from 3 dB to 12 dB. It should be noted that a change of 3 dB is considered to be "barely audible" to a trained ear and that a change of 5 dB is considered to be a readily audible change. Noise generated by transportation sources propagates differently than noise generated by point sources.

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 at a noise sensitive land use by 3 dBA Ldn and if: (1) the existing noise levels already exceed the residential land use compatibility standard for "normally compatible" (65 dBA Ldn), or (2) the project increases noise levels from below the 65 dBA Ldn standard to above 65 dBA Ldn.

Stationary Noise

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

3. California Department of Transportation (Caltrans)

The Caltrans Transportation and Vibration Guidance Manual recommends a maximum vibration level standard of 0.2 in/sec PPV for the prevention of structural damage to typical residential buildings.

C. Local Regulations

Local regulations and policies that apply to the proposed project include the City of Walnut General Plan, and the City Code.

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 N1. 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.

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

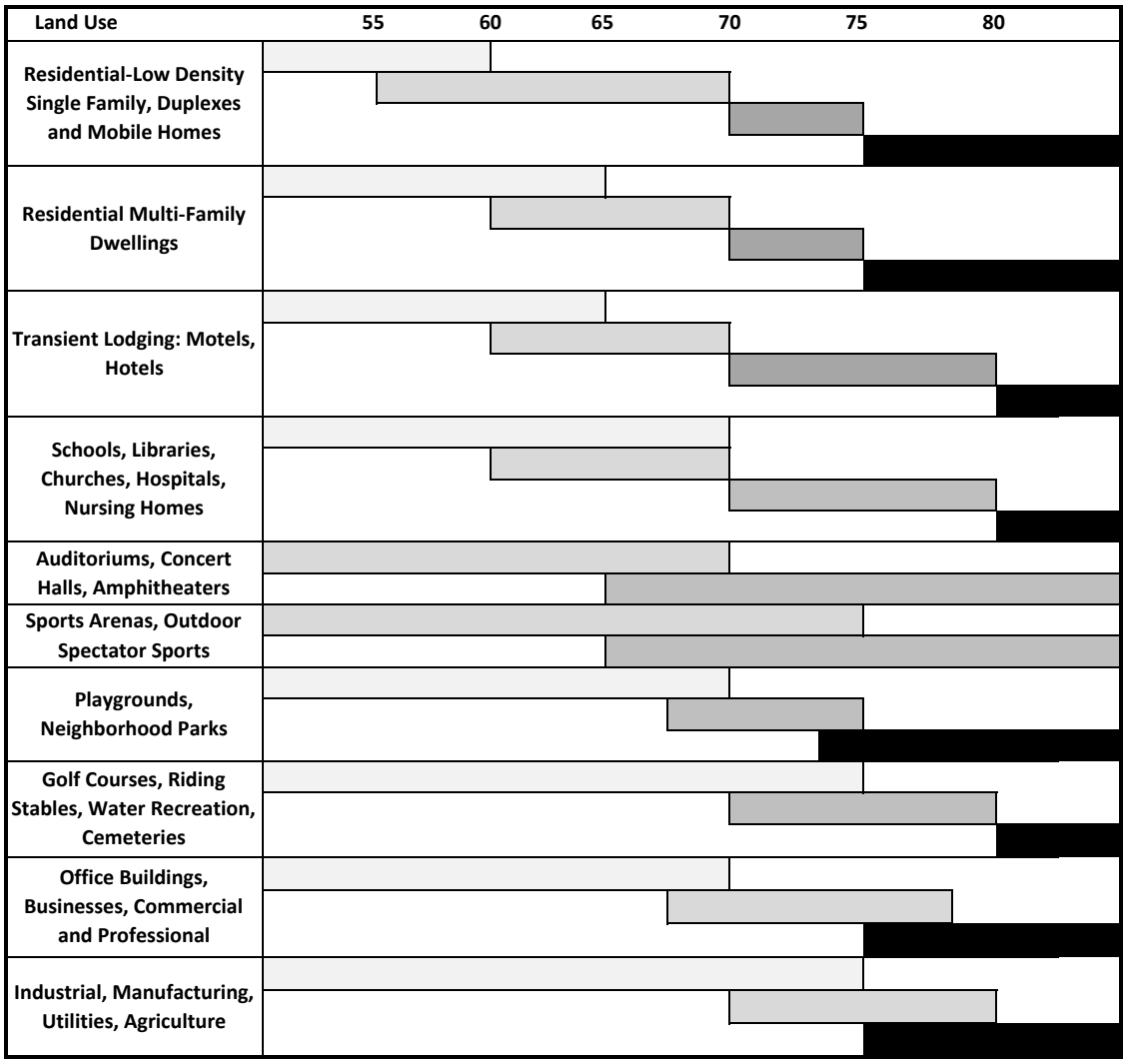
Noise level limits for Stationary Sources to adjacent properties are presented in Table 7. They are further defined in the Noise Limit Category discussion below the table. If the measured ambient level exceeds any of the first four noise limit categories, the allowable noise exposure standard shall be 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.

Construction Standards

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 the San Bernardino Development Code.

Table 6

Land Use Compatibility for Community Noise Exposure[1] (dBA CNEL or L_{dn})



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

[1] Source: State of California Dept. of Health

Table 7

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

VI. Impact Analysis

A. Construction Noise Impacts

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. Typical noise sources and noise levels associated with construction activities are shown in Table 8.

The nearest noise-sensitive receptors to the project are the single-family detached residential dwelling units located approximately 400 feet south of the project site.

The initial phase of construction would involve mass grading of the site followed by site development activities, including the construction of internal roadways (fine grading, trenching, and paving). Following site preparation activities, construction of buildings would begin, which requires the following phases: site development, 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 several graders, dozers, excavators, scrapers, and pickup trucks.

A conservative analysis of construction noise over a one-hour period was calculated utilizing the Road Construction Noise Model (RCNM) provided by the FHWA. Simultaneous use of several pieces of equipment on the project site was assumed and equipment was assumed to be spread out at varying distances from the property line. The use factor assumed for each piece of equipment was 40 percent. Construction noise levels could reach a maximum noise level of up to 65.8 L_{eq} and 66.9 dBA L_{max} at the nearest sensitive receptors. RCNM Output is included in this report as Appendix B.

San Bernardino County Development Code Section 83.01.080 exempts construction activities from the noise standard providing that such activities take place between the hours of 7:00 AM to 7:00 PM except Sundays and Federal holidays. Construction noise would not be severe and would be temporary, limited to the duration of the construction. Impacts associated with project construction would not be significant.

B. Project Operational Noise

Due to the distance of the proposed project to the nearest sensitive receptors (approximately 400 feet); and the facts that most activities at the temple would be quiet would occur inside buildings, most operational noise would not be audible. However, the proposed bell and drums to be located in the drum towers and parking lot activities are not necessarily quiet and were modeled using the SoundPLAN model. The goal of the modeling was to calculate how loud the proposed large bell and drums located in the towers could be without exceeding applicable standards during a large event (parking lot noise was included). The proposed project is not likely to exceed County of San Bernardino Stationary Noise Standards as long as the proposed large bell and/or drums do not exceed 72.4 dBA

Leq or 94.7 Lmax at a distance of 100 feet. An appropriate measuring location to be used to verify noise levels is represented as Receiver 8 on Figure 5.

C. Project Generated Traffic Noise Impacts to Sensitive Receptors

The FHWA Traffic Noise Prediction Model - FHWA-RD-77-108 was used to model Existing and Existing Plus Project noise levels were modeled for each roadway segment analyzed in the traffic study prepared for the proposed project (Kunzman Associates, Inc. 2014). Project generated increases in ambient noise levels along affected road segments were then calculated. Modeling output is included in this report as Appendix C.

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 65 dBA CNEL residential standard, or (2) the project increases noise levels from below the 65 dBA CNEL standard to above 65 dBA CNEL.

As shown in Table 9, in no case is project generated vehicle traffic expected to cause increases in ambient noise levels that exceed 1.0 dB. Project related traffic noise will not result in substantial increases in ambient noise levels. No mitigation is required.

D. Vibration Impacts

1. Project Generated Vibration

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 10.

Table 10 shows the peak particle velocities of some common construction equipment and haul trucks (loaded trucks). Passing haul trucks may generate ground-borne vibration noise that may be perceptible at adjacent sensitive receptors. Based on Caltrans data, haul trucks would not be anticipated to exceed a 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 35 feet or more from the traveled roadway segments, would not be anticipated to exceed even the most conservative damage threshold of 0.2 inch/second ppv.

2. Consistency with Applicable Standards

Hauling and vibration intensive construction activities should be limited to daytime hours whenever feasible to minimize any ground vibration noise impacts related to construction at adjacent sensitive receptors.

Table 8

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 9

Traffic Noise Model Results[1]
(Peak Hour Noise Levels at 50 feet from Centerline)

Roadway	Segment	Modeled Noise Levels (dBA CNEL)		
		Existing	Existing Plus Project	Increase
Wilson Avenue	Warman Bullock Road to San Sevaine Road	67.4	67.5	0.2
	San Sevaine Road to Cherry Avenue	68.2	68.3	0.1
	Cherry Avenue to I-15 Freeway	70.6	70.7	0.1
Beech Avenue	East of I-15 Freeway	72.1	72.1	0.0
Wardman Bullock Road	Wilson Avenue to Colonbero Road	58.9	59.0	0.1
Colonbero Road	Wardman Bullock Road to Wardman Bulluck Road	49.1	49.8	0.7

[1] Modeling results summarized from Appendix C

Table 10

Construction Equipment Vibration Emissions[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.

VII. References

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

California Department of Transportation
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

Kunzman Associates
2014 Traffic Study Analysis Report for Ling Yen Mountain Temple. July 18.

San Bernardino County
1995 General Plan Noise Element
2007 Development Code

Appendices

Appendix A –Noise Measurement Data Sheets

Appendix B – RCNM Noise Modeling Sheets

Appendix C – FHWA Sound32 Spreadsheet

APPENDIX A

Noise Measurement Data Sheets

Summary	Ling Yen Temple Ambient
Filename	LxT_Data.191
Serial Number	3099
Model	LxT1
Firmware Version	2.112
User	Chris Pylant
Location	North end of portion of paved Wardman Bullock Road
Start	06/06/2014 15:10:30
Stop	06/06/2014 15:25:30
Duration	0:15:00.0
Run Time	0:15:00.0
Pause	0:00:00.0
Pre Calibration	06/06/2014 15:05:22
Post Calibration	None
Calibration Deviation	---

Overall Settings	
RMS Weight	A Weighting
Peak Weight	C Weighting
Detector	Slow
Preamp	PRMLxT1L
Integration Method	Exponential
Overload	122.1 dB

Results			
LASeq	39.3 dB		
LASE	68.8 dB		
EAS	0.847 µPa²h		
EAS8	27.120 µPa²h		
EAS40	135.599 µPa²h		
LCpeak (max)	06/06/2014 15:17:50	92.8 dB	
LASmax	06/06/2014 15:17:45	49.0 dB	
LASmin	06/06/2014 15:21:14	32.9 dB	
SEA	-99.9 dB		

LCSeq	65.7 dB	**Statistics**	
LASeq	39.3 dB	**LAS1.67**	45.3 dB
LCSeq - LASeq	26.4 dB	**LAS8.33**	42.4 dB
LAIeq	42.9 dB	**LAS25.00**	40.0 dB
LAeq	39.3 dB	**LAS50.00**	37.8 dB
LAIeq - LAeq	3.6 dB	**LAS66.67**	36.6 dB
# Overloads	0	**LAS90.00**	35.1 dB
Overload Duration	0.0 s		

APPENDIX B

RCNM Noise Modeling Sheets

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 8/7/2014
Case Description: Ling Yen

				---- Receptor #1 ----		
		Baselines (dBA)				
Description	Land Use	Daytime	Evening	Night		
Single Family Detache	Residential	40	40	40		

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)
Grader	No	40	85		400
Dozer	No	40		81.7	400
Excavator	No	40		80.7	400
Pickup Truck	No	40		75	400

Calculated (dBA)

Equipment		*Lmax	Leq
Grader		66.9	63
Dozer		63.6	59.6
Excavator		62.6	58.7
Pickup Truck		56.9	53
	Total	**66.9**	**65.8**

*Calculated Lmax is the Loudest value.

Estimated Shielding (dBA)
0
0
0
0

APPENDIX C

FHWA Sound32 Spreadsheet

FHWA Sound32 Spreadsheet

Existing Traffic Noise

Project: **Ling Yen Temple**
Road: **Wilson Avenue**
Segment: **Warman Bullock Rd to San Sevain Rd**

	DAYTIME			EVENING			NIGHTTIME		
	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS
INPUT PARAMETERS									
Vehicles per hour	251.94	5.22	8.70	46.76	0.22	0.36	34.80	5.44	9.06
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	17.69	0.85	3.07	10.37	-12.95	-10.73	9.09	1.03	3.25
Distance	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	59.98	52.09	59.16	52.66	38.29	45.36	51.38	52.27	59.34

DAY LEQ	62.97	EVENING LEQ	53.53	NIGHT LEQ	60.66	
CNEL	67.36					

ADT		8700.00
SPEED		40.00
DISTANCE		50.00
% A		92
% MT		3
% HT		5
LEFT		-90.00
RIGHT		90.00
CNEL		67.36
DAY LEQ		62.97
Day hour		89.00
Absorbtive?	no	
Use hour?	no	
GRADE dB		0.00

FHWA Sound32 Spreadsheet

Existing Plus Project Traffic Noise

Project: **Ling Yen Temple**
Road: **Wilson Avenue**
Segment: **Warman Bullock Rd to San Sevain Rd**

	DAYTIME			EVENING			NIGHTTIME				
	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	ADT	9599.82
										SPEED	40.00
										DISTANCE	50.00
INPUT PARAMETERS											
Vehicles per hour	279.53	5.55	8.83	51.88	0.23	0.37	38.61	5.78	9.20	% A	92.51
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	% MT	2.89
NOISE CALCULATIONS											
Reference levels	67.36	76.31	81.16	67.36	76.31	81.16	67.36	76.31	81.16	% HT	4.60
ADJUSTMENTS											
Flow	18.14	1.12	3.13	10.82	-12.68	-10.67	9.54	1.29	3.31		
Distance	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	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	67.53
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	DAY LEQ	63.25
LEQ	60.43	52.36	59.22	53.11	38.56	45.42	51.83	52.54	59.40	Day hour	89.00
										Absorbtive?	no
	DAY LEQ	63.25		EVENING LEQ	53.92		NIGHT LEQ	60.80		Use hour?	no
										GRADE dB	0.00
	CNEL		67.53								

FHWA Sound32 Spreadsheet

Existing Traffic Noise

Project: **Ling Yen Temple**
Road: **Wilson Avenue**
Segment: **San Sevain Rd to Cherry Ave**

	DAYTIME			EVENING			NIGHTTIME		
	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS
INPUT PARAMETERS									
Vehicles per hour	304.06	6.30	10.50	56.44	0.26	0.44	42.00	6.56	10.94
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	18.50	1.67	3.89	11.19	-12.14	-9.92	9.91	1.84	4.06
Distance	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	60.79	52.91	59.97	53.48	39.11	46.17	52.20	53.09	60.15

DAY LEQ	63.78	EVENING LEQ	54.35	NIGHT LEQ	61.48	
CNEL	68.18					

ADT	10500.00
SPEED	40.00
DISTANCE	50.00
% A	92
% MT	3
% HT	5
LEFT	-90.00
RIGHT	90.00
CNEL	68.18
DAY LEQ	63.78
Day hour	89.00
Absorbtive?	no
Use hour?	no
GRADE dB	0.00

FHWA Sound32 Spreadsheet

Existing Plus Project Traffic Noise

Project: **Ling Yen Temple**
Road: **Wilson Avenue**
Segment: **San Sevain Rd to Cherry Ave**

	DAYTIME			EVENING			NIGHTTIME		
	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS
INPUT PARAMETERS									
Vehicles per hour	331.65	6.63	10.63	61.56	0.28	0.44	45.81	6.91	11.08
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	18.88	1.89	3.94	11.57	-11.91	-9.86	10.28	2.07	4.12
Distance	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	61.17	53.13	60.03	53.86	39.33	46.23	52.57	53.31	60.21

DAY LEQ	64.02	EVENING LEQ	54.68	NIGHT LEQ	61.60	
CNEL	68.32					

ADT	11399.82
SPEED	40.00
DISTANCE	50.00
% A	92.43
% MT	2.91
% HT	4.66
LEFT	-90.00
RIGHT	90.00
CNEL	68.32
DAY LEQ	64.02
Day hour	89.00
Absorbtive?	no
Use hour?	no
GRADE dB	0.00

FHWA Sound32 Spreadsheet

Existing Traffic Noise

Project: **Ling Yen Temple**
Road: **Wilson Avenue**
Segment: **Cherry Ave to I-15**

	DAYTIME			EVENING			NIGHTTIME		
	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS
INPUT PARAMETERS									
Vehicles per hour	527.04	10.92	18.20	97.83	0.46	0.76	72.80	11.38	18.96
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	20.89	4.06	6.27	13.58	-9.75	-7.53	12.29	4.23	6.45
Distance	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	63.18	55.30	62.36	55.87	41.50	48.56	54.58	55.48	62.54

DAY LEQ	66.17	EVENING LEQ	56.74	NIGHT LEQ	63.87	
CNEL	70.57					

ADT		18200.00
SPEED		40.00
DISTANCE		50.00
% A		92
% MT		3
% HT		5
LEFT		-90.00
RIGHT		90.00
CNEL		70.57
DAY LEQ		66.17
Day hour		89.00
Absorbtive?	no	
Use hour?	no	
GRADE dB		0.00

FHWA Sound32 Spreadsheet

Existing Plus Project Traffic Noise

Project: **Ling Yen Temple**
Road: **Wilson Avenue**
Segment: **Cherry Ave to I-15**

	DAYTIME			EVENING			NIGHTTIME		
	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS
INPUT PARAMETERS									
Vehicles per hour	554.63	11.25	18.33	102.95	0.47	0.76	76.61	11.72	19.10
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	21.11	4.19	6.31	13.80	-9.62	-7.50	12.52	4.36	6.48
Distance	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	63.40	55.43	62.40	56.09	41.63	48.59	54.81	55.61	62.57

DAY LEQ	66.31	EVENING LEQ	56.93	NIGHT LEQ	63.93	
CNEL	70.65					

ADT	19099.82
SPEED	40.00
DISTANCE	50.00
% A	92.26
% MT	2.95
% HT	4.80
LEFT	-90.00
RIGHT	90.00
CNEL	70.65
DAY LEQ	66.31
Day hour	89.00
Absorbtive?	no
Use hour?	no
GRADE dB	0.00

FHWA Sound32 Spreadsheet

Existing Traffic Noise

Project: **Ling Yen Temple**
Road: **Beech Avenue**
Segment: **East of I-15**

	DAYTIME			EVENING			NIGHTTIME		
	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS
INPUT PARAMETERS									
Vehicles per hour	741.33	15.36	25.60	137.60	0.64	1.07	102.40	16.00	26.67
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	22.37	5.54	7.76	15.06	-8.26	-6.05	13.78	5.71	7.93
Distance	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	64.66	56.78	63.85	57.35	42.98	50.04	56.07	56.96	64.02

DAY LEQ	67.65	EVENING LEQ	58.22	NIGHT LEQ	65.35	
CNEL	72.05					

ADT		25600.00
SPEED		40.00
DISTANCE		50.00
% A		92
% MT		3
% HT		5
LEFT		-90.00
RIGHT		90.00
CNEL		72.05
DAY LEQ		67.65
Day hour		89.00
Absorbtive?	no	
Use hour?	no	
GRADE dB		0.00

FHWA Sound32 Spreadsheet

Existing Plus Project Traffic Noise

Project: **Ling Yen Temple**
Road: **Beech Avenue**
Segment: **East of I-15**

	DAYTIME			EVENING			NIGHTTIME		
	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS
INPUT PARAMETERS									
Vehicles per hour	744.40	15.40	25.61	138.17	0.64	1.07	102.82	16.04	26.68
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	22.39	5.55	7.76	15.08	-8.25	-6.04	13.79	5.73	7.94
Distance	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	64.68	56.79	63.85	57.37	42.99	50.05	56.08	56.97	64.03

DAY LEQ	67.67	EVENING LEQ	58.24	NIGHT LEQ	65.35	
CNEL	72.05					

ADT		25699.98
SPEED		40.00
DISTANCE		50.00
% A		92.02
% MT		3.00
% HT		4.98
LEFT		-90.00
RIGHT		90.00
CNEL		72.05
DAY LEQ		67.67
Day hour		89.00
Absorbtive?	no	
Use hour?	no	
GRADE dB		0.00

FHWA Sound32 Spreadsheet

Existing Traffic Noise

Project: **Ling Yen Temple**
Road: **Wardman Bullock Road**
Segment: **Wilson Ave to Colonbero Rd**

	DAYTIME			EVENING			NIGHTTIME			ADT	3200.00
	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	SPEED	40.00
										DISTANCE	50.00
INPUT PARAMETERS											
Vehicles per hour	98.10	1.20	0.47	18.13	0.05	0.05	13.62	1.20	0.47	% A	97.4
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	% MT	1.84
NOISE CALCULATIONS											
Reference levels	67.36	76.31	81.16	67.36	76.31	81.16	67.36	76.31	81.16	% HT	0.74
ADJUSTMENTS											
Flow	13.59	-5.53	-9.64	6.26	-19.06	-19.05	5.02	-5.53	-9.64		
Distance	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	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	58.88
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	DAY LEQ	56.71
LEQ	55.88	45.71	46.45	48.55	32.18	37.04	47.31	45.71	46.45	Day hour	89.00
										Absorbtive?	no
	DAY LEQ	56.71		EVENING LEQ	48.94		NIGHT LEQ	51.31		Use hour?	no
										GRADE dB	0.00
	CNEL		58.88								

FHWA Sound32 Spreadsheet

Existing Plus Project Traffic Noise

Project: **Ling Yen Temple**
Road: **Wardman Bullock Road**
Segment: **Wilson Ave to Colonbero Rd**

	DAYTIME			EVENING			NIGHTTIME				
	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	ADT	3299.98
										SPEED	40.00
										DISTANCE	50.00
INPUT PARAMETERS											
Vehicles per hour	101.17	1.24	0.48	18.70	0.05	0.06	14.05	1.24	0.48	% A	97.40
Speed in MPH	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00		
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00		
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	% MT	1.84
NOISE CALCULATIONS											
Reference levels	67.36	76.31	81.16	67.36	76.31	81.16	67.36	76.31	81.16	% HT	0.74
ADJUSTMENTS											
Flow	13.72	-5.40	-9.50	6.39	-18.93	-18.92	5.15	-5.40	-9.50		
Distance	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	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	59.01
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	DAY LEQ	56.84
LEQ	56.01	45.84	46.59	48.68	32.31	37.17	47.44	45.84	46.59	Day hour	89.00
										Absorbtive?	no
	DAY LEQ	56.84		EVENING LEQ	49.07		NIGHT LEQ	51.44		Use hour?	no
										GRADE dB	0.00
	CNEL		59.01								

FHWA Sound32 Spreadsheet

Existing Traffic Noise

Project: **Ling Yen Temple**
Road: **Wardman Bullock Road**
Segment: **Colonbero Rd to Site**

	DAYTIME			EVENING			NIGHTTIME				
	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	ADT	35.00
										SPEED	40.00
										DISTANCE	50.00
INPUT PARAMETERS											
Vehicles per hour	1.07	0.01	0.01	0.20	0.00	0.00	0.15	0.01	0.01	% A	97.4
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	% MT	1.84
NOISE CALCULATIONS											
Reference levels	67.36	76.31	81.16	67.36	76.31	81.16	67.36	76.31	81.16	% HT	0.74
ADJUSTMENTS											
Flow	-6.02	-25.15	-29.25	-13.35	-38.68	-38.66	-14.59	-25.15	-29.25		
Distance	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	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	39.27
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	DAY LEQ	37.10
LEQ	36.27	26.10	26.84	28.94	12.57	17.43	27.70	26.10	26.84	Day hour	89.00
										Absorbtive?	no
	DAY LEQ	37.10		EVENING LEQ	29.33		NIGHT LEQ	31.70		Use hour?	no
										GRADE dB	0.00
	CNEL		39.27								

FHWA Sound32 Spreadsheet

Existing Plus Project Traffic Noise

Project: **Ling Yen Temple**
Road: **Wardman Bullock Road**
Segment: **Colonbero Rd to Site**

	DAYTIME			EVENING			NIGHTTIME				
	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	ADT	134.98
										SPEED	40.00
										DISTANCE	50.00
INPUT PARAMETERS											
Vehicles per hour	4.14	0.05	0.02	0.76	0.00	0.00	0.57	0.05	0.02	% A	97.41
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	% MT	1.84
NOISE CALCULATIONS											
Reference levels	67.36	76.31	81.16	67.36	76.31	81.16	67.36	76.31	81.16	% HT	0.74
ADJUSTMENTS											
Flow	-0.16	-19.28	-23.39	-7.49	-32.81	-32.80	-8.73	-19.28	-23.39		
Distance	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	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	45.13
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	DAY LEQ	42.96
LEQ	42.13	31.96	32.70	34.80	18.43	23.29	33.56	31.96	32.70	Day hour	89.00
										Absorbtive?	no
	DAY LEQ	42.96		EVENING LEQ	35.19		NIGHT LEQ	37.56		Use hour?	no
										GRADE dB	0.00
	CNEL		45.13								

FHWA Sound32 Spreadsheet

Existing Traffic Noise

Project: **Ling Yen Temple**
Road: **Colonbero Road**
Segment: **Warman Bullock Rd to Warman Bullock Rd**

	DAYTIME			EVENING			NIGHTTIME				
	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	ADT	600.00
										SPEED	30.00
										DISTANCE	50.00
INPUT PARAMETERS											
Vehicles per hour	18.39	0.22	0.09	3.40	0.01	0.01	2.55	0.22	0.09	% A	97.4
Speed in MPH	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00		
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00		
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	% MT	1.84
NOISE CALCULATIONS											
Reference levels	62.51	73.11	78.76	62.51	73.11	78.76	62.51	73.11	78.76	% HT	0.74
ADJUSTMENTS											
Flow	7.57	-11.56	-15.66	0.24	-25.08	-25.07	-1.00	-11.56	-15.66		
Distance	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	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	49.09
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	DAY LEQ	46.29
LEQ	45.01	36.49	38.03	37.68	22.96	28.62	36.44	36.49	38.03	Day hour	89.00
										Absorbtive?	no
	DAY LEQ	46.29		EVENING LEQ	38.32		NIGHT LEQ	41.82		Use hour?	no
										GRADE dB	0.00
	CNEL		49.09								

FHWA Sound32 Spreadsheet

Existing Plus Project Traffic Noise

Project: **Ling Yen Temple**
Road: **Colonbero Road**
Segment: **Warman Bullock Rd to Warman Bullock Rd**

	DAYTIME			EVENING			NIGHTTIME				
	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	AUTOS	M.TRUCKS	H.TRUCKS	ADT	699.98
										SPEED	30.00
										DISTANCE	50.00
INPUT PARAMETERS											
Vehicles per hour	21.46	0.26	0.10	3.97	0.01	0.01	2.98	0.26	0.10	% A	97.40
Speed in MPH	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00		
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00		
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	% MT	1.84
NOISE CALCULATIONS											
Reference levels	62.51	73.11	78.76	62.51	73.11	78.76	62.51	73.11	78.76	% HT	0.74
ADJUSTMENTS											
Flow	8.24	-10.89	-14.99	0.91	-24.42	-24.40	-0.33	-10.89	-14.99		
Distance	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	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	49.75
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	DAY LEQ	46.96
LEQ	45.68	37.16	38.70	38.35	23.63	29.29	37.11	37.16	38.70	Day hour	89.00
										Absorbtive?	no
	DAY LEQ	46.96		EVENING LEQ	38.99		NIGHT LEQ	42.49		Use hour?	no
										GRADE dB	0.00
	CNEL		49.75								

Kunzman Associates, Inc.

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