Reverie Retreat

County of El Dorado, California

October 31, 2016

jcb Project # 2016-203

Prepared for:

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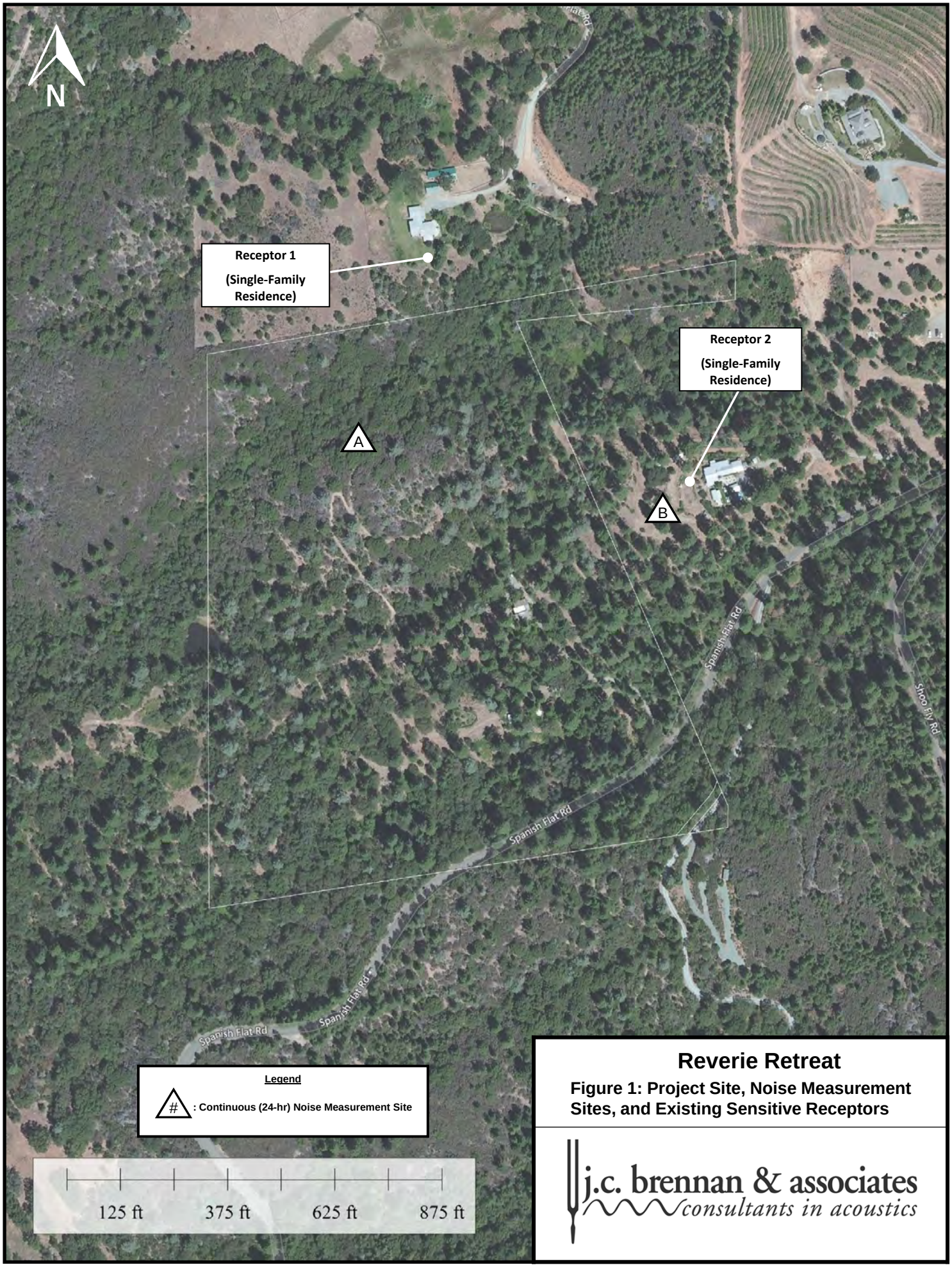
CEQA Checklist - Noise				
	Potentially Significant Impact	**Less Than Significant with Mitigation**	**Less Than Significant Impact**	**No Impact**
XII. NOISE: Would the project result in:				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

INTRODUCTION

This report describes the existing noise environment in the area of the proposed Reverie Retreat project in El Dorado County, California and the potential of the proposed project to generate noise levels exceeding the applicable El Dorado County exterior noise level standards at noise-sensitive receptors in the project area.

The proposed Reverie Retreat project is located at 5760 Spanish Flat Road in El Dorado County, California. The project proposes the creation of an agriculture-based retreat facility. This noise analysis has been prepared to address potential noise-related issues associated with the proposed project. The analysis considers operational activities including the use of amplified sound for special events, general congregation of people on the project site, parking and circulation, and construction noise/vibration associated with site improvements.

Figure 1 shows an aerial photo of the project site and surrounding area and locations of sensitive receptors. Figure 2 shows the project site plan.



Reverie Retreat

Figure 1: Project Site, Noise Measurement Sites, and Existing Sensitive Receptors

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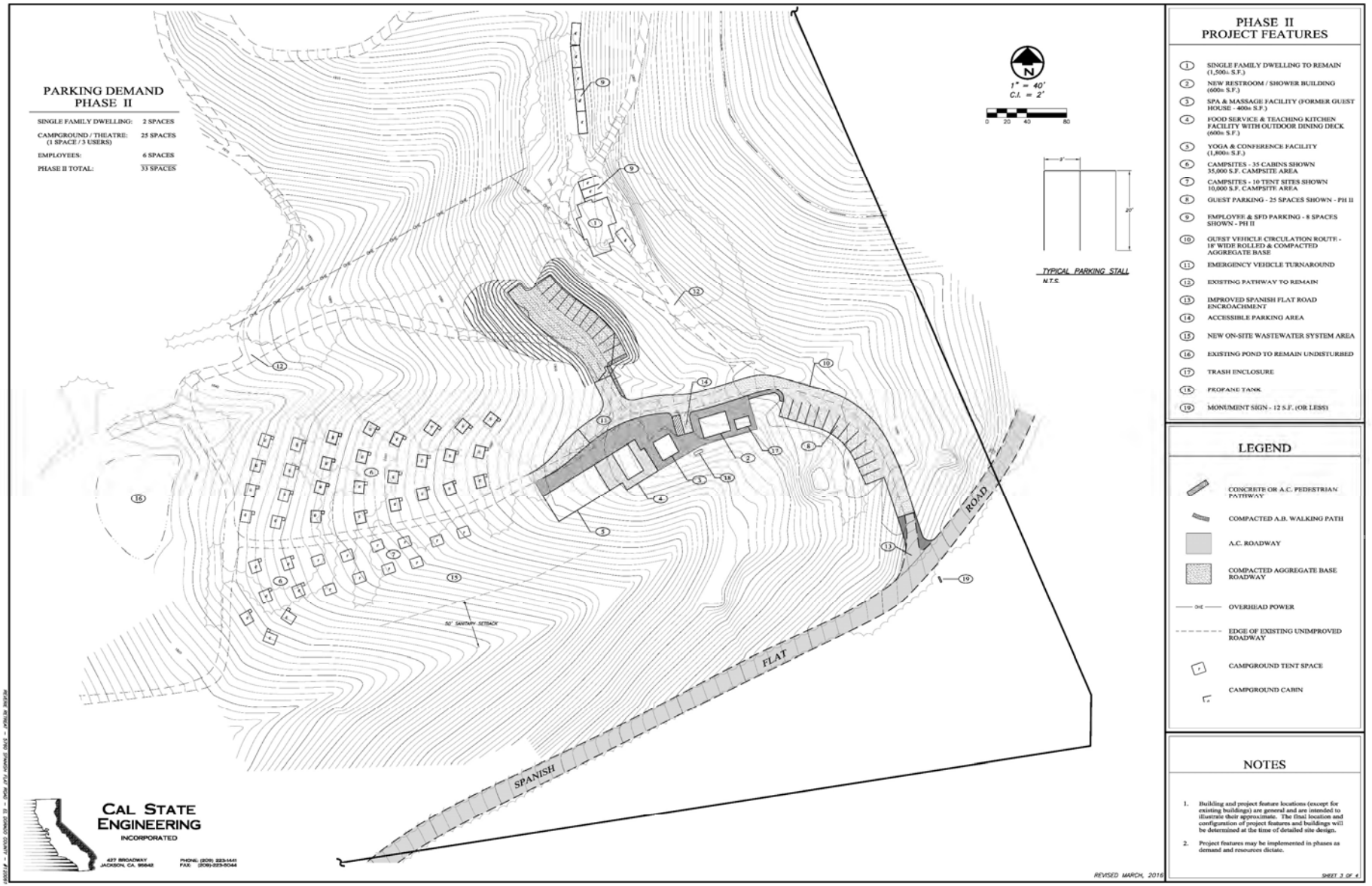

Reverie Retreat

Figure 2: Site Plan (Phase II)

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PROJECT DESCRIPTION

The Reverie Retreat project is an affordable, accessible and aesthetically inviting agriculture-based retreat where guests restore their equilibrium through the experience of visiting a natural setting. Fundamental elements of the project include agricultural production and animal husbandry, educational workshops and classes, garden-to-table education and food services, and a small campground providing overnight accommodations for guests attending multi-day events. The retreat and campground will be operated year-round with peak seasonal usage expected between May and September. Programs will be conducted up to seven days per week with peak daily usage expected on weekends.

Specifically, Reverie Retreat will include the following (note that guest and staff figures are listed at maximum anticipated guest attendance levels):

- Agricultural production including vegetables and fruit, poultry (for eggs), goats and/or sheep (for dairy), etc.

- Theme-based retreats to include wine- and food-focused classes, cheese-making classes, cooking classes, workshops focused on agriculture education, art- and/or craft- making, yoga workshops, health and wellness retreats, family camps, literary weekends, and other topics of general agricultural interest.

- All-inclusive food service, supported by on-site agricultural production, to include breakfast, lunch and dinner for up to 75 overnight guests. Alcohol to include beer and wine only.

- A small campground containing up to 35 small cabins or tent cabins and approximately 10 tent campsites with shared/communal restrooms and showers, with a total overnight maximum capacity of 75 guests and 6 staff. Flexible lodging options will be tailored to meet the needs of various guest groups (some might desire the more affordable tent campsites while others will prefer the more comfortable cabins), but combined occupancy will not exceed 75 guests plus 6 staff at any one time.

- Special events several times per year to include motivational speakers, reunions and similar gatherings, with a day-time capacity of up to 75 people per event plus 6 staff.

- A conference facility, spa, full-service kitchen with outdoor dining areas, and teaching kitchen facilities.

Operational characteristics of the project

Reverie Retreat will offer a variety of one-day educational programs, classes and conferences, multi-day theme-based retreats, classes and workshops, and week-long family camps. Typical program schedules are discussed in this section, however minor variations to program schedules may occur from time to time in an effort to accommodate the needs of specific programs. Note that attendance figures for Phase 1 and Phase 2 are shown as (xx|yy).

<u>One-day programs</u>

Reverie Retreat will offer a series of one-day educational programs, classes and conferences Mondays through Saturdays. One-day program guests will arrive for the day-long event between 8:00 and 8:30 am, and will leave between about 3:30 and 4:30 pm. Lunches will be served at the site so guests will stay on-site for the duration of the day-long program. One-day program guests will be limited to (40|75) per day.

<u>Weekend (two- and three-day) programs</u>

In addition to one-day programs, Reverie Retreat will offer a series of weekend programs which will include theme-based retreats, classes, workshops, etc. The focus of most weekend programs will be on micro-scale agricultural production, animal husbandry, garden- to-table food service, and other natural and sustainable agriculture-based themes, although other themes may be considered over time. Weekend program guests will arrive Thursday or Friday afternoon through early evening, generally between 3:30 and 6:00 pm. Guests will enjoy on-site dining and campground sleeping accommodations Thursday, Friday and Saturday evenings, and the program will be conducted all day Friday, Saturday and Sunday. Guests will leave at the program's conclusion on Sunday between about 3:30 and 4:30 pm. All meals will be served at the site so guests will stay on-site for the duration of the weekend-long program. Weekend program guests will be limited to (40|75) per program.

Week-long programs

In addition to one-day and weekend programs, Reverie Retreat will offer a limited number of week-long family programs. The agriculture-based theme of the week-long programs will be similar to that of weekend programs, however the focus will be on family-oriented educational activities. Embedded classes and workshops will include such themes as small-scale agricultural production, animal husbandry, garden-to-table food service, environmental stewardship, and the incorporation of these themes into family values and traditions. Week-long family camp guests will arrive Friday afternoon through early evening, generally between 3:30 and 6:00 pm. Guests will enjoy on-site dining and campground sleeping accommodations beginning Friday evening, and the multi-day program will begin Saturday morning and end the following Friday morning. Guests will leave at the program's conclusion after breakfast on Friday, generally between 10:00 and 11:00 am. All meals will be served at the site so guests will stay on-site for the duration of the week-long program. Week-long family camp guests will be limited to (40|75) per program.

Special events

Special events will be hosted at the site up to 12 times per year. Special events will include class reunions, family reunions, guest lecturers, motivational speakers, and other similar short-duration (i.e. less than one day) events. Due to the varied nature of these events, arrival and departure times will vary with each event. Special event attendance will be limited to (40|75) guests per event and only one special event per day will be offered.

On-site accommodations & facilities

Existing single-family dwelling:

The existing 1,500± single-family dwelling will remain, to be occupied year-round by caretaker residents responsible for security and maintenance of the facilities and infrastructure.

Existing guest house:

The existing 400± s.f. guest house will be converted to a spa and massage facility for use by guests. A new guest cottage will be constructed to provide housing for senior staff and owners. The location for the new guest house will be determined after a thorough evaluation and vetting of the facility's operational characteristics and site circulation patterns.

Existing cabin:

The existing 600± s.f. cabin will be re-purposed as a full-service kitchen designed to accommodate routine food service needs and food-based education. The kitchen facility will

include an outdoor teaching kitchen and an outdoor dining deck.

Overnight accommodations:

Sleeping accommodations for overnight guests will be provided in a small campground containing up to 35 small cabins (115± s.f.) and 10 tent campsites. A typical cabin will contain a bed and one or two nightstands, but will not have plumbing or cooking facilities. Power will be extended to each cabin for lighting, power receptacles, space heating, etc. Exterior finishes will focus on either natural wood finishes or muted earth-tone wood stains. Several representative cabin examples are presented at the end of this project description.

The campground will be slightly greater than five acres in overall area. Each campsite will occupy at least 1,000 s.f. of area within the overall campground area. Campsite density at full operation will average nine campsites per developable acre or less, and overnight population density will be 1.8 persons per campsite or less.

Restroom and shower facilities:

A new 600± s.f. shared bathroom & shower facility will be constructed near the center of guest-based activities. Additional (optional) satellite restroom facilities will be considered at or near the campground areas to provide for more convenient access during evening hours. The need for additional restroom facilities will be evaluated during the first few years of operation.

Conference facility:

A new conference facility will be constructed immediately west of the existing cabin. The new structure will support special events, motivational speakers, conferences, etc. Initially the conference facility will be a small structure, geared toward smaller events, but eventually a facility of approximately 1,800± s.f. is envisioned.

ENVIRONMENTAL SETTING

BACKGROUND INFORMATION ON NOISE

Fundamentals of Acoustics

Acoustics is the science of sound. Sound may be thought of as mechanical energy of a vibrating object transmitted by pressure waves through a medium to human (or animal) ears. If the pressure variations occur frequently enough (at least 20 times per second), then they can be heard and are called sound. The number of pressure variations per second is called the frequency of sound, and is expressed as cycles per second or Hertz (Hz).

Noise is a subjective reaction to different types of sounds. Noise is typically defined as (airborne) sound that is loud, unpleasant, unexpected or undesired, and may therefore be classified as a more specific group of sounds. Perceptions of sound and noise are highly subjective from person to person.

Measuring sound directly in terms of pressure would require a very large and awkward range of numbers. To avoid this, the decibel scale was devised. The decibel scale uses the hearing threshold (20 micropascals), as a point of reference, defined as 0 dB. Other sound pressures are then compared to this reference pressure, and the logarithm is taken to keep the numbers in a practical range. The decibel scale allows a million-fold increase in pressure to be expressed as 120 dB, and changes in levels (dB) correspond closely to human perception of relative loudness.

The perceived loudness of sounds is dependent upon many factors, including sound pressure level and frequency content. However, within the usual range of environmental noise levels, perception of loudness is relatively predictable, and can be approximated by A-weighted sound levels. There is a strong correlation between A-weighted sound levels (expressed as dBA) and the way the human ear perceives sound. For this reason, the A-weighted sound level has become the standard tool of environmental noise assessment. All noise levels reported in this section are in terms of A-weighted levels, but are expressed as dB, unless otherwise noted.

The decibel scale is logarithmic, not linear. In other words, two sound levels 10 dB apart differ in acoustic energy by a factor of 10. When the standard logarithmic decibel is A-weighted, an increase of 10 dBA is generally perceived as a doubling in loudness. For example, a 70 dBA sound is half as loud as an 80 dBA sound, and twice as loud as a 60 dBA sound.

Community noise is commonly described in terms of the ambient noise level, which is defined as the all-encompassing noise level associated with a given environment. A common statistical tool is the average, or equivalent, sound level (L_{eq}), which corresponds to a steady-state A weighted sound level containing the same total energy as a time varying signal over a given time period (usually one hour). The L_{eq} is the foundation of the composite noise descriptor, L_{dn}, and shows very good correlation with community response to noise.

The day/night average level (L_{dn}) is based upon the average noise level over a 24-hour day, with a +10 decibel weighing applied to noise occurring during nighttime (10:00 p.m. to 7:00 a.m.) hours. The nighttime penalty is based upon the assumption that people react to nighttime noise exposures as though they were twice as loud as daytime exposures. Because L_{dn} represents a 24-hour average, it tends to disguise short-term variations in the noise environment.

Table 1 lists several examples of the noise levels associated with common situations. Appendix A provides a summary of acoustical terms used in this report.

TABLE 1
TYPICAL NOISE LEVELS

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	--110--	Rock Band
Jet Fly-over at 300 m (1,000 ft)	--100--	
Gas Lawn Mower at 1 m (3 ft)	--90--	
Diesel Truck at 15 m (50 ft), at 80 km/hr (50 mph)	--80--	Food Blender at 1 m (3 ft) Garbage Disposal at 1 m (3 ft)
Noisy Urban Area, Daytime Gas Lawn Mower, 30 m (100 ft)	--70--	Vacuum Cleaner at 3 m (10 ft)
Commercial Area Heavy Traffic at 90 m (300 ft)	--60--	Normal Speech at 1 m (3 ft)
Quiet Urban Daytime	--50--	Large Business Office Dishwasher in Next Room
Quiet Urban Nighttime	--40--	Theater, Large Conference Room (Background)
Quiet Suburban Nighttime	--30--	Library
Quiet Rural Nighttime	--20--	Bedroom at Night, Concert Hall (Background)
	--10--	Broadcast/Recording Studio
Lowest Threshold of Human Hearing	--0--	Lowest Threshold of Human Hearing

Source: Caltrans, Technical Noise Supplement, Traffic Noise Analysis Protocol. November, 2009.

Effects of Noise on People

The effects of noise on people can be placed in three categories:

- Subjective effects of annoyance, nuisance, and dissatisfaction
- Interference with activities such as speech, sleep, and learning
- Physiological effects such as hearing loss or sudden startling

Environmental noise typically produces effects in the first two categories. Workers in industrial plants can experience noise in the last category. There is no completely satisfactory way to measure the subjective effects of noise or the corresponding reactions of annoyance and dissatisfaction. A wide variation in individual thresholds of annoyance exists and different tolerances to noise tend to develop based on an individual's past experiences with noise.

Thus, an important way of predicting a human reaction to a new noise environment is the way it compares to the existing environment to which one has adapted: the so-called ambient noise level. In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise will be judged by those hearing it.

With regard to increases in A-weighted noise level, the following relationships occur:

- Except in carefully controlled laboratory experiments, a change of 1 dBA cannot be perceived;
- Outside of the laboratory, a 3-dBA change is considered a just-perceivable difference;
- A change in level of at least 5-dBA is required before any noticeable change in human response would be expected; and
- A 10-dBA change is subjectively heard as approximately a doubling in loudness, and can cause an adverse response.

Stationary point sources of noise – including stationary mobile sources such as idling vehicles – attenuate (lessen) at a rate of approximately 6 dB per doubling of distance from the source, depending on environmental conditions (i.e. atmospheric conditions and either vegetative or manufactured noise barriers, etc.). Widely distributed noises, such as a large industrial facility spread over many acres, or a street with moving vehicles, would typically attenuate at a lower rate.

EXISTING AND FUTURE NOISE AND VIBRATION ENVIRONMENTS

EXISTING NOISE RECEPTORS

Some land uses are considered more sensitive to noise than others. Land uses often associated with sensitive receptors generally include residences, schools, libraries, hospitals, and passive recreational areas. Sensitive noise receptors may also include threatened or endangered noise sensitive biological species, although many jurisdictions have not adopted noise standards for wildlife areas. Noise sensitive land uses are typically given special attention in order to achieve protection from excessive noise.

Sensitivity is a function of noise exposure (in terms of both exposure duration and insulation from noise) and the types of activities involved. In the vicinity of the project site, sensitive land uses include existing single-family residential uses to the north and east of the project site. These receptors are shown on Figure 1.

EXISTING GENERAL AMBIENT NOISE LEVELS

j.c. brennan & associates, Inc. conducted continuous sound level measurements in the vicinity of the nearest sensitive receptors on Friday October 21st through Sunday October 23rd, 2016. The continuous noise measurement locations are shown on Figure 1.

Noise measurement equipment consisted of a Larson-Davis Laboratories (LDL) Model 820 precision integrating sound level meter. The meter was calibrated in the field before and after use using a LDL CAL200 acoustical calibrator. Appendix B graphically shows the results of the continuous noise monitoring. Table 2 provides a summary of the ambient noise monitoring.

The sound level meters were programmed to record the maximum, median, and average noise levels at each site during the survey. The maximum value, denoted L_{max}, represents the highest noise level measured. The average value, denoted L_{eq}, represents the energy average of all the noise received by the sound level meter microphone during the monitoring period.

TABLE 2
SUMMARY OF EXISTING BACKGROUND NOISE MEASUREMENT DATA

Location	Date	Daytime	Average Measured Hourly Noise Levels, dBA	
			L_{eq}	L_{max}
Continuous 24-hour Noise Measurement Sites				
Site A	Friday – 10/21/16	Daytime (7:00 a.m. to 10:00 pm.)	37	54
	Saturday – 10/22/16		37	54
	Sunday – 10/23/16		40	55
		Average:	**38**	**54**
Site B	Friday – 10/21/16	Daytime (7:00 a.m. to 10:00 pm.)	44	59
	Saturday – 10/22/16		42	58
	Sunday – 10/23/16		44	60
		Average:	**43**	**59**

Source – j.c. brennan & associates, Inc. - 2016

Based upon the Table 2 data, daytime ambient noise levels averaged 38 dB L_{eq} in the direction of the nearest residential receptors to the north (Site A) and 43 dB L_{eq} at the nearest residential receptor to the east (Site B).

EVALUATION OF PROJECT-GENERATED NOISE

Traffic Noise

Based upon the traffic analysis done for the proposed project, the project would generate approximately 62 total trips on a busy day of operations. As shown in Appendix C, this would result in a noise level of approximately 34 dBA L_{dn} at a distance of 150 feet from the centerline of Spanish Flat Road. This distance is representative of the closest residential receptor located along Spanish Flat Road between Highway 193 and the project entrance.

Based upon the ambient noise level measured at location B, existing ambient noise levels at a distance of approximately 200 feet from Spanish Flat Road were found to be 45-47 dB L_{dn}. This is considered to be a conservative estimate of existing ambient noise for residential uses located along Spanish Flat Road. Based upon an existing ambient noise level of 45-57 dB L_{dn}, the predicted project-related traffic noise of 34 dBA L_{dn} would not cause any measurable increase in traffic noise.

Project Noise Generation

Sound level data for each of the project on-site noise sources was used as direct inputs to the CadnaA Noise Prediction Model. The CadnaA model is a state-of-the-art noise prediction model, which is able to predict overall noise levels for multiple noise sources, while accounting for topography and typical atmospheric conditions. Inputs to the CadnaA model included ground topography and ground type, noise source locations and heights, receiver locations, and sound power level data. A discussion of each of the on-site project noise sources is provided below.

Parking Lot Noise

Parking lot noise typically includes periods of conversation, doors slamming, engines starting and stopping and vehicle passage. j.c. brennan & associates, Inc. file data for parking lot activities was used to model the parking lot noise environment for the project site. An average sound exposure level (SEL) of 71 dB at a distance of 50 feet was used to represent parking lot arrivals and departures.

The traffic analysis indicates that the peak hour trip generation is 25. Based upon these trips, the peak hour L_{eq} value for each parking area can be calculated as follows:

$$L_{eq} = SEL + 10 \log Neq - 35.6, \text{ dB where:}$$

SEL is the mean SEL of the event, Neq is the sum of the number of hourly events, and 35.6 is 10 times the logarithm of the number of seconds in an hour. Based upon the above formula, the hourly L_{eq} for parking lot activity would be 49.3 dB L_{eq} at a distance of 50 feet.

Outdoor Congregation of People

In order to quantify outdoor noise levels from people congregating on the project site, j.c. brennan & associates, Inc. used sound pressure level data for typical speech efforts to model the sound levels from each of the primary outdoor use areas. The results of this analysis are shown in Table 3.

Outdoor Use of Amplified Sound

j.c. brennan & associates, Inc. assumed that amplified sound could include speech or music. A sound level of 75 dB L_{eq} at a distance of 50 feet from the sound system was assumed for the amplified sound. This analysis assumes that amplified sound would occur at Special Event Area 1, as shown on Figure 3. This is considered the "worst-case" scenario as it is located closest to the existing residential uses to the north or east. Amplified sound at other locations on the project site would occur at greater distance from these receptors and would result in quieter noise levels than those shown on Figure 4.

Modeled Noise Levels for On-Site Activities

Each of the above-listed noise sources were input into the CadnaA sound prediction model. Table 3 shows a summary of the sound power levels used in the sound prediction model. It should be noted that the modeled noise predictions are conservative as they assume multiple activities occurring at full capacity on the site at one time, as shown in Table 3.

Table 3: Project Noise Source Sound Power Levels

Location	# of People	Sound Pressure level for Speech Effort	Total Hourly L_{eq}
Special Event Area & Outdoor Dining	75	Conversational Speech – 60 dBA L_{eq} at 3'	79 dBA L_{eq} at 3'
Cabin Area	75	Conversational Speech – 60 dBA L_{eq} at 3'	79 dBA L_{eq} at 3'
Parking	N/A	N/A	49.3 dBA L_{eq} at 50'
Amplified Sound	N/A	N/A	75 dBA L_{eq} at 50'

Figure 3 shows the locations of each of the modeled noise sources. Figure 4 shows the predicted project-related noise levels at each of the closest residential receptors.

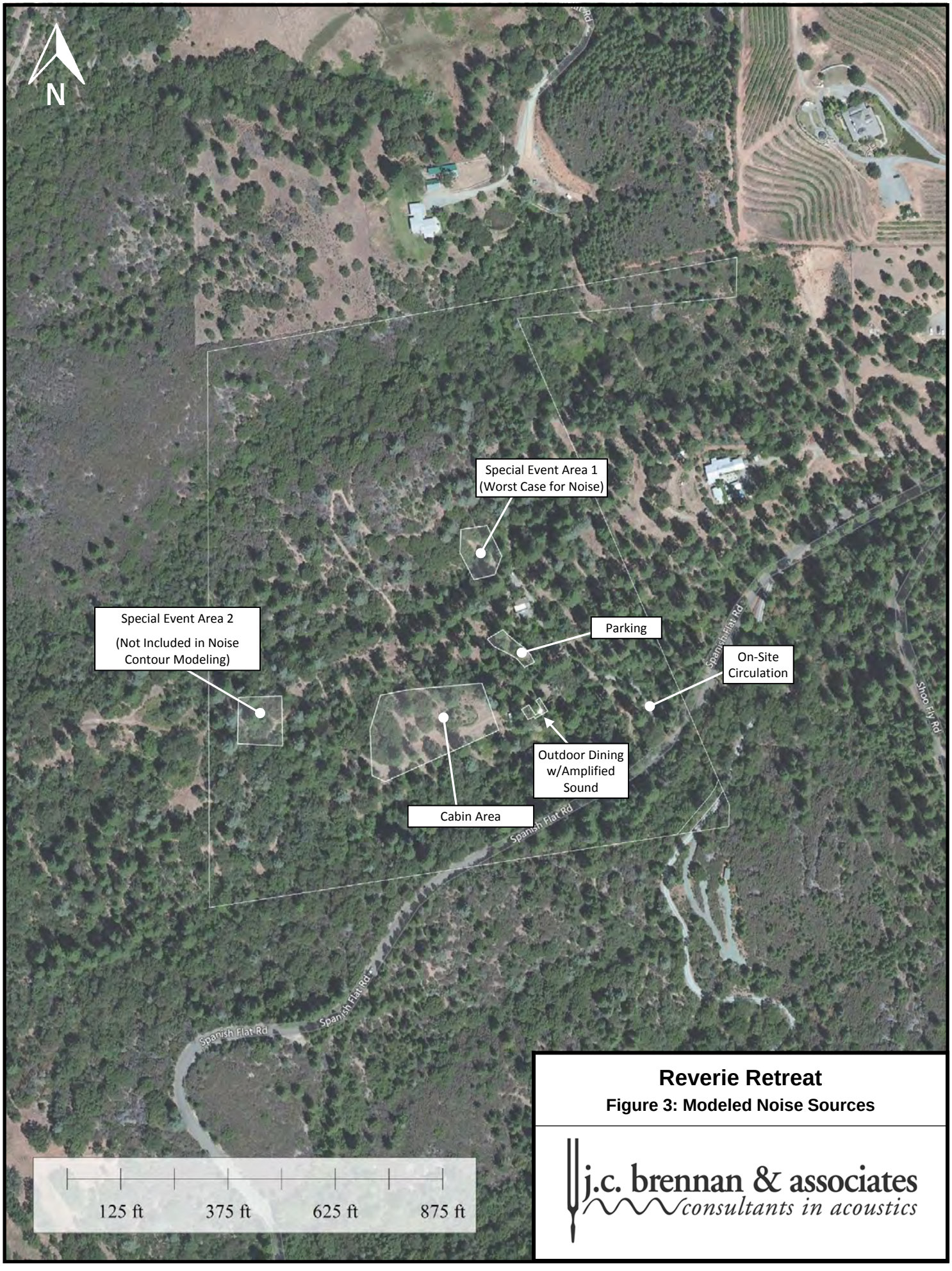

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Figure 3: Modeled Noise Sources

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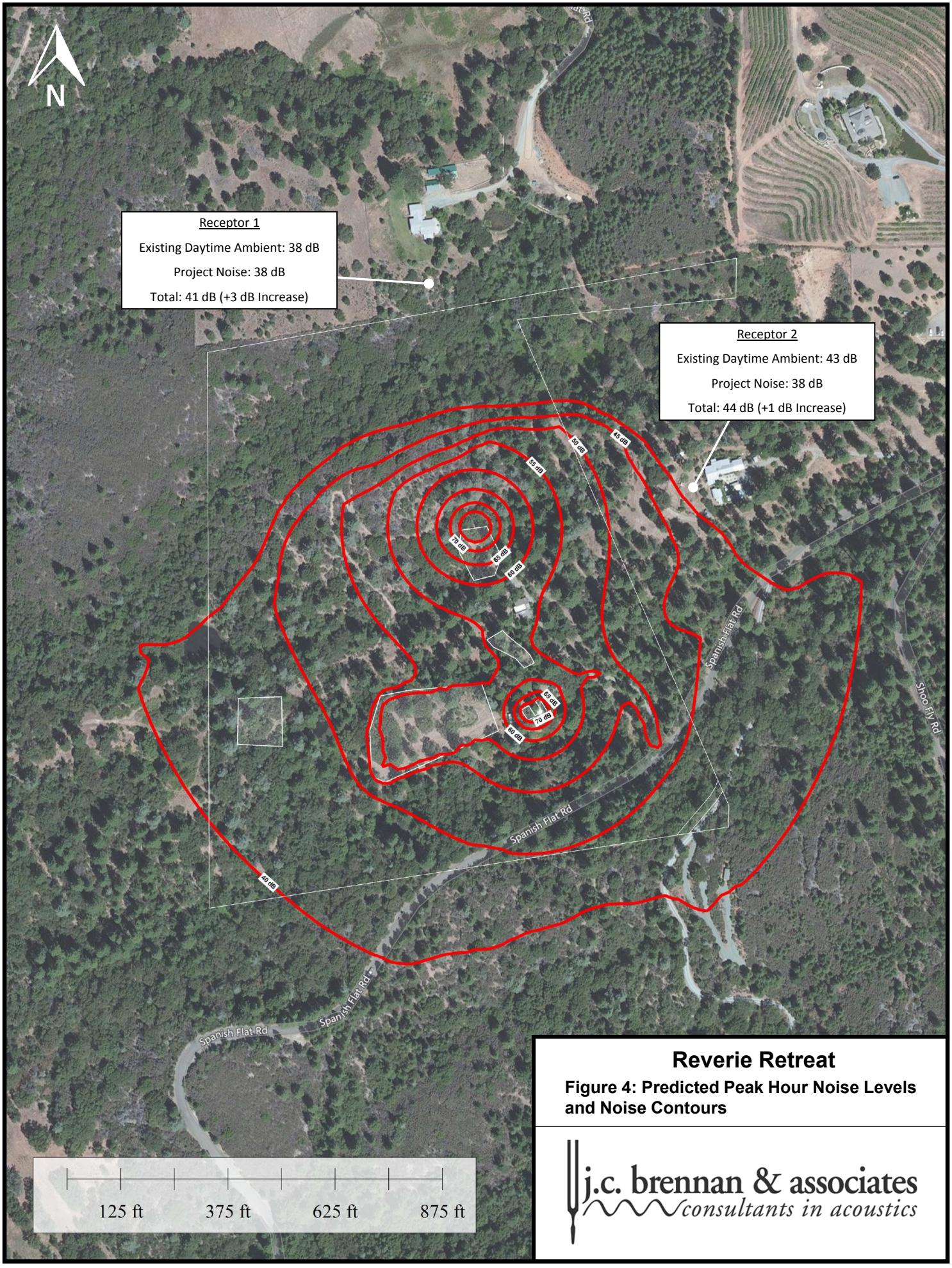

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Figure 4: Predicted Peak Hour Noise Levels and Noise Contours

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Construction Noise Environment

It is expected that construction of the project would require a minimal amount of excavation in preparation of the site. Excavation of the site would most likely be the loudest activity associated with the project construction. As shown in Table 4, use of an excavator would generate a maximum noise level of approximately 81 dB L_{max} at a distance of 50 feet.

TABLE 4
CONSTRUCTION EQUIPMENT NOISE LEVELS

Type of Equipment	Maximum Level, dB at 50 feet
Auger Drill Rig	84
Backhoe	78
Compactor	83
Compressor (air)	78
Concrete Saw	90
Dozer	82
Dump Truck	76
Excavator	81
Generator	81
Jackhammer	89
Pneumatic Tools	85

Source: *Roadway Construction Noise Model User's Guide*. Federal Highway Administration. FHWA-HEP-05-054. January 2006.

The closest residential receptors to the east are located approximately 650 feet from the center of the project site. At this distance, maximum construction noise levels would be 59 dB L_{max}. Maximum noise levels measured at Site B indicate that existing ambient noise levels were 58-60 dB L_{max}.

The closest residential receptors to the north are located approximately 850 feet from the center of the project site. At this distance, maximum construction noise levels would be 56 dB L_{max}. Maximum noise levels measured at Site A indicate that existing ambient noise levels were 54-55 dB L_{max}.

Construction Vibration Environment

The primary vibration-generating activities associated with the proposed project would occur during construction when excavation would occur. Table 5 shows the typical vibration levels produced by construction equipment.

TABLE 5
VIBRATION LEVELS FOR VARIOUS CONSTRUCTION EQUIPMENT

Type of Equipment	Peak Particle Velocity at 25 feet (inches/second)	Peak Particle Velocity at 50 feet (inches/second)	Peak Particle Velocity at 100 feet (inches/second)
Large Bulldozer	0.089	0.031	0.011
Loaded Trucks	0.076	0.027	0.010
Small Bulldozer	0.003	0.001	0.000
Auger/drill Rigs	0.089	0.031	0.011
Jackhammer	0.035	0.012	0.004
Vibratory Hammer	0.070	0.025	0.009
Vibratory Compactor/roller	0.210	0.074	0.026

Source: *Transit Noise and Vibration Impact Assessment Guidelines.* Federal Transit Administration. May 2006.

REGULATORY CONTEXT

General Plan Noise Element - Non-Transportation Noise

The El Dorado County General Plan Noise Element contains goals and standards for non-transportation noise sources affecting noise-sensitive receptors.

Goal 6.5: Acceptable Noise Levels

Ensure that County residents are not subjected to noise beyond acceptable levels.

Objective 6.5.1: Protection of Noise-Sensitive Development

Protect existing noise-sensitive developments (e.g. hospitals, schools, churches and residential) from new uses that would generate noise levels incompatible with those uses and, conversely, discourage noise-sensitive uses from locating near sources of high noise levels.

Policy 6.5.1.2

Noise created by new proposed non-transportation noise sources shall be mitigated so as not to exceed the noise level standards of Table 6 (Table 6-2 of the General Plan) for noise-sensitive uses.

Policy 6.5.1.12

When determining the significance of impacts and appropriate mitigation for new development projects, the following criteria shall be taken into consideration:

A. Where existing or projected future traffic noise levels are less than 60 dBA Ldn at the outdoor activity areas of residential uses, an increase of more than 5 dBA Ldn caused by a new transportation noise source will be considered significant;

B. Where existing or projected future traffic noise levels range between 60 and 65 dBA Ldn at the outdoor activity areas of residential uses, an increase of more than 3 dBA Ldn caused by a new transportation noise source will be considered significant; and

C. Where existing or projected future traffic noise levels are greater than 65 dBA Ldn at the outdoor activity areas of residential uses, an increase of more than 1.5 dBA Ldn caused by a new transportation noise will be considered significant.

Policy 6.5.1.13

When determining the significance of impacts and appropriate mitigation to reduce those impacts for new development projects, including ministerial development, the following criteria shall be taken into consideration:

A. In areas in which ambient noise levels are in accordance with the standards in Table 6-2 (Table 6 of this report), increases in ambient noise levels caused by new non-transportation noise sources that exceed 5 dBA shall be considered significant; and

B. In areas in which ambient noise levels are not in accordance with the standards in Table 6-2 (Table 6 of this report), increases in ambient noise levels caused by new non-transportation noise sources that exceed 3 dBA shall be considered significant.

TABLE 6
NOISE LEVEL PERFORMANCE PROTECTION STANDARDS FOR NOISE SENSITIVE LAND USES AFFECTED BY NON-TRANSPORTATION NOISE SOURCES

Noise Level Descriptor	Daytime 7 a.m. - 7 p.m.		Evening 7 p.m. - 10 p.m.		Night 10 p.m. - 7 a.m.	
	Community	Rural	Community	Rural	Community	Rural
Hourly L_{eq}, dB	55	50	50	45	45	40
Lmax, dB	70	60	60	55	55	50

Each of the noise levels specified above shall be lowered by five dB for simple noises, noises consisting primarily of speech or music, or for recurring impulsive noises.

County can impose noise level standards which are up to 5 dB less than those specified above based upon determination of existing low ambient noise levels in the vicinity of the project site.

In Community areas the exterior noise level standard shall be applied to the property line of the receiving property. In Rural areas the exterior noise level shall be applied at a point 100 feet away from the residence.

Source: Table 6-2 of the El Dorado County General Plan.

Title 130 Zoning Ordinance - Noise Standards

The following are pertinent sections of the El Dorado County *Title 130 Zoning Ordinance - Chapter 130.37 Noise Standards*:

130.37.20 Exemptions

F. Noise sources associated with work performed by public or private utilities in the maintenance or modification of its facilities.

I. Construction (e.g., construction, alteration or repair activities) during the daylight hours provided that all construction equipment shall be fitted with factory installed muffling devices and maintained in good working order.

130.37.60 Noise Standards

The following standards shall apply to all development projects for which an acoustic analysis is required:

A. Noise sensitive land uses affected by non-transportation noise sources shall not exceed standards set forth in Table 130.37.060.1 (Noise Level Performance Standards for Noise Sensitive Land Uses Affected by Non-Transportation Sources) below:

C. Construction-related noise shall allow for exceptions to the evening and nighttime standards or other temporary exceedances of noise standards as may be approved by the Director, where necessary to alleviate traffic congestion and safety hazards, or where authorized by an approved permit.

TABLE 7
TABLE 130.37.060.1 OF THE ZONING ORDINANCE
NOISE LEVEL PERFORMANCE PROTECTION STANDARDS FOR NOISE SENSITIVE LAND USES AFFECTED BY NON-TRANSPORTATION NOISE SOURCES

Noise Level Descriptor	*Daytime 7 a.m. - 7 p.m.*		*Evening 7 p.m. - 10 p.m.*		Night 10 p.m. - 7 a.m.	
	Community	*Rural*	*Community*	Rural	Community	Rural
Hourly L_{eq}, dB	*55*	*50*	*50*	45	45	40
Lmax, dB	*70*	*60*	*60*	55	55	50

Each of the noise levels specified above shall be lowered by five dB for simple tone noises, noises consisting of unamplified speech or music, or for recurring impulsive noises.

The Director can impose noise level standards which are up to 5 dB less than those specified above based upon determination of existing low ambient noise levels in the vicinity of the project site.

The exterior noise level standard shall be applied as follows:
a. In Community Regions, at property line of the receiving property;

b. In Rural Centers and Regions, at a point 100 feet away from a sensitive receptor or, if the sensitive receptor is within the Platted Lands Overlay (-PL) where the underlying land uses designation is consistent with Community Region densities, at the property line of the receiving property or 100 feet away from the sensitive receptor, whichever is less; or

c. In all areas, at the boundary of a recorded noise easement between affected properties.

It should be noted that the noise level criteria contained in the Title 130 Zoning Ordinance are consistent with those contained in the General Plan Noise Element. However, exemptions and exceptions for construction noise are contained in the Title 130 Zoning Ordinance.)

Vibration Standards

While vibration is similar to noise, both involving a source, a transmission path, and a receiver, vibration differs from noise because noise is generally considered to be pressure waves transmitted through air, whereas vibration usually consists of the excitation of a structure or surface. As with noise, vibration consists of an amplitude and frequency. A person's perception to the vibration depends on their individual sensitivity to vibration, as well as the amplitude and frequency of the source and the response of the system which is vibrating.

Vibration can be measured in terms of acceleration, velocity, or displacement. A common practice is to monitor vibration measures in terms of peak particle velocities in inches per second. Standards pertaining to perception as well as damage to structures have been developed for vibration levels defined in terms of peak particle velocities.

The County of El Dorado does not have specific policies pertaining to vibration levels. However, vibration levels associated with construction activities and project operations are addressed as potential vibration impacts associated with project implementation.

Human and structural response to different vibration levels is influenced by a number of factors, including ground type, distance between source and receptor, duration, and the number of perceived vibration events. Table 8 indicates that the threshold for damage to structures ranges from 0.2 to 0.6 peak particle velocity in inches per second (in/sec p.p.v). One-half this minimum threshold or 0.1 in/sec p.p.v. is considered a safe criterion that would protect against architectural or structural damage, as indicated in Table 8. The general threshold at which human annoyance could occur is noted as 0.1 in/sec p.p.v.

TABLE 8
EFFECTS OF VIBRATION ON PEOPLE AND BUILDINGS

Peak Particle Velocity		Human Reaction	Effect on Buildings
mm/second	in/second		
0.15-0.30	0.006-0.019	Threshold of perception; possibility of intrusion	Vibrations unlikely to cause damage of any type
2.0	0.08	Vibrations readily perceptible	Recommended upper level of the vibration to which ruins and ancient monuments should be subjected
2.5	0.10	Level at which continuous vibrations begin to annoy people	Virtually no risk of "architectural" damage to normal buildings
5.0	0.20	Vibrations annoying to people in buildings (this agrees with the levels established for people standing on bridges and subjected to relative short periods of vibrations)	Threshold at which there is a risk of "architectural" damage to normal dwelling - houses with plastered walls and ceilings. Special types of finish such as lining of walls, flexible ceiling treatment, etc., would minimize "architectural" damage
10-15	0.4-0.6	Vibrations considered unpleasant by people subjected to continuous vibrations and unacceptable to some people walking on bridges	Vibrations at a greater level than normally expected from traffic, but would cause "architectural" damage and possibly minor structural damage

Source: *Transportation Related Earthborne Vibrations.* Caltrans. TAV-02-01-R9601. February 20, 2002.

PROJECT IMPACTS AND MITIGATION MEASURES

IMPACT 1: WOULD THE PROJECT RESULT IN EXPOSURE OF PERSONS TO OR GENERATION OF NOISE LEVELS IN EXCESS OF STANDARDS ESTABLISHED IN THE LOCAL GENERAL PLAN OR NOISE ORDINANCE, OR APPLICABLE STANDARDS OF OTHER AGENCIES?

Traffic Noise

Based upon the traffic analysis done for the proposed project, the project would generate approximately 62 total trips on a busy day of operations. As shown in Appendix C, this would result in a noise level of approximately 34 dBA L_{dn} at a distance of 150 feet from the centerline of Spanish Flat Road. This distance is representative of the closest residential receptor located along Spanish Flat Road between Highway 193 and the project entrance. This complies with the County's 60 dB L_{dn} exterior noise level standard.

Operational Noise

As shown on Figure 4, operation of the project is predicted to generate exterior noise levels of 38 dB L_{eq} at the nearest residential uses. Maximum (L_{max}) noise levels are predicted to be 10 dB higher than average (L_{eq}) noise levels for these types of noise sources. Therefore, maximum noise levels associated with the project are predicted to be 48 dB L_{max} at the nearest residential receptors. These noise levels would comply with the El Dorado County 40 dB L_{eq} and 50 dB L_{max} evening (7:00 p.m. to 10:00 p.m.) rural noise level standards for noise sources which consist primarily of speech or music.

This would be a ***less than significant*** impact.

Mitigation for Impact 1: *None Required*

IMPACT 2: WOULD THE PROJECT RESULT IN EXPOSURE OF PERSONS TO OR GENERATION OF EXCESSIVE GROUNDBORNE VIBRATION OR GROUNDBORNE NOISE LEVELS?

Construction vibration impacts include human annoyance and building structural damage. Human annoyance occurs when construction vibration rises significantly above the threshold of perception. Building damage can take the form of cosmetic or structural.

The Table 5 data indicate that construction vibration levels anticipated for the project are less than the 0.2 in/sec p.p.v. threshold of damage to buildings and less than the 0.1 in/sec threshold of annoyance criteria at distances of 50 feet. Sensitive receptors which could be impacted by construction related vibrations are located approximately 650 feet, or further, from the project site. At these distances construction vibrations are not predicted to exceed acceptable levels. Additionally, construction activities would be temporary in nature and would likely occur during normal daytime working hours.

Because construction vibrations are not predicted to cause damage to existing buildings or cause annoyance to sensitive receptors, implementation of the proposed project would not expose persons to or generate excessive ground borne vibration or ground borne noise levels.

This would be a ***less than significant*** impact.

Mitigation for Impact 2: *None Required*

IMPACT 3: WOULD THE PROJECT RESULT IN A SUBSTANTIAL PERMANENT INCREASE IN AMBIENT NOISE LEVELS IN THE PROJECT VICINITY ABOVE LEVELS EXISTING WITHOUT THE PROJECT?

Traffic Noise

Based upon the traffic analysis done for the proposed project, the project would generate approximately 62 total trips on a busy day of operations. As shown in Appendix C, this would result in a noise level of approximately 34 dBA L_{dn} at a distance of 150 feet from the centerline of Spanish Flat Road. This distance is representative of the closest residential receptor located along Spanish Flat Road between Highway 193 and the project entrance.

Based upon the ambient noise level measured at location B, existing ambient noise levels at a distance of approximately 200 feet from Spanish Flat Road were found to be 45-47 dB L_{dn}. This is considered to be a conservative estimate of existing ambient noise for residential uses located along Spanish Flat Road. Based upon an existing ambient noise level of 45-57 dB L_{dn}, the predicted project-related traffic noise of 34 dBA L_{dn} would not cause any measurable increase in traffic noise.

Operational Noise

The proposed project is predicted to increase non-transportation noise levels by 1-3 dB at the nearest residential uses due to on-site activities. This is less than the 5 dB El Dorado County test of significance outlined in General Plan Policy 6.5.1.13.

This would be a ***less than significant*** impact.

IMPACT 4: WOULD THE PROJECT RESULT IN ASUBSTANTIAL TEMPORARY OR PERIODIC INCREASE IN AMBIENT NOISE LEVELS IN THE PROJECT VICINITY ABOVE LEVELS EXISTING WITHOUT THE PROJECT?

The closest residential receptors to the east are located approximately 650 feet from the center of the project site. At this distance, maximum construction noise levels would be 59 dB L_{max}. Maximum noise levels measured at Site B indicate that existing ambient noise levels were 58-60 dB L_{max}. Therefore, typical maximum construction noise levels would be within the range of existing maximum ambient noise levels.

The closest residential receptors to the north are located approximately 850 feet from the center of the project site. At this distance, maximum construction noise levels would be 56 dB L_{max}. Maximum noise levels measured at Site A indicate that existing ambient noise levels were 54-55 dB L_{max}. Therefore, typical maximum construction noise levels are predicted to be approximately 1-2 dB higher than existing ambient noise levels. This is less than the 5 dB El Dorado County test of significance outlined in General Plan Policy 6.5.1.13.

It should also be noted that daytime construction activities are typically exempt from regulation under Title 130 Zoning Ordinance regulations, assuming that construction equipment is fitted with factory installed muffling devices and maintained in good working order (Title 130.37.20).

With the outlined mitigation measure(s), this would be a ***less than significant*** impact.

This would be a ***less than significant*** impact.

Mitigation for Impact 4: *None Required*

IMPACT 5: FOR A PROJECT LOCATED WITHIN AN AIRPORT LAND USE PLAN OR, WHERE SUCH A PLAN HAS NOT BEEN ADOPTED, WITHIN TWO MILES OF A PUBLIC AIRPORT OR PUBLIC USE AIRPORT, WOULD THE PROJECT EXPOSE PEOPLE RESIDING OR WORKING IN THE PROJECT AREA TO EXCESSIVE NOISE LEVELS?

There are no public airports in the project vicinity. Therefore, this impact is not applicable to the proposed project.

Mitigation for Impact 5: *None Required*

IMPACT 6: FOR A PROJECT WITHIN THE VICINITY OF A PRIVATE AIRSTRIP, WOULD THE PROJECT EXPOSE PEOPLE RESIDING OR WORKING IN THE PROJECT AREA TO EXCESSIVE NOISE LEVELS?

There are no private airstrips in the project vicinity. Therefore, this impact is not applicable to the proposed project.

Mitigation for Impact 6: *None Required*

Appendix A
Acoustical Terminology

Acoustics	The science of sound.
Ambient Noise	The distinctive acoustical characteristics of a given space consisting of all noise sources audible at that location. In many cases, the term ambient is used to describe an existing or pre-project condition such as the setting in an environmental noise study.
Attenuation	The reduction of an acoustic signal.
A-Weighting	A frequency-response adjustment of a sound level meter that conditions the output signal to approximate human response.
Decibel or dB	Fundamental unit of sound, A Bell is defined as the logarithm of the ratio of the sound pressure squared over the reference pressure squared. A Decibel is one-tenth of a Bell.
CNEL	Community Noise Equivalent Level. Defined as the 24-hour average noise level with noise occurring during evening hours (7 - 10 p.m.) weighted by a factor of three and nighttime hours weighted by a factor of 10 prior to averaging.
Frequency	The measure of the rapidity of alterations of a periodic signal, expressed in cycles per second or hertz (Hz).
L_{dn}	Day/Night Average Sound Level. Similar to CNEL but with no evening weighting.
L_{eq}	Equivalent or energy-averaged sound level.
L_{max}	The highest root-mean-square (RMS) sound level measured over a given period of time.
$L_{(n)}$	The sound level exceeded a described percentile over a measurement period. For instance, an hourly L_{50} is the sound level exceeded 50% of the time during the one hour period.
Loudness	A subjective term for the sensation of the magnitude of sound.
Noise	Unwanted sound.
NRC	Noise Reduction Coefficient. NRC is a single-number rating of the sound-absorption of a material equal to the arithmetic mean of the sound-absorption coefficients in the 250, 500, 1000, and 2,000 Hz octave frequency bands rounded to the nearest multiple of 0.05. It is a representation of the amount of sound energy absorbed upon striking a particular surface. An NRC of 0 indicates perfect reflection; an NRC of 1 indicates perfect absorption.
Peak Noise	The level corresponding to the highest (not RMS) sound pressure measured over a given period of time. This term is often confused with the AMaximum@ level, which is the highest RMS level.
RT_{60}	The time it takes reverberant sound to decay by 60 dB once the source has been removed.
Sabin	The unit of sound absorption. One square foot of material absorbing 100% of incident sound has an absorption of 1 Sabin.
SEL	Sound Exposure Level. SEL is s rating, in decibels, of a discrete event, such as an aircraft flyover or train passby, that compresses the total sound energy into a one-second event.
STC	Sound Transmission Class. STC is an integer rating of how well a building partition attenuates airborne sound. It is widely used to rate interior partitions, ceilings/floors, doors, windows and exterior wall configurations.
Threshold of Hearing	The lowest sound that can be perceived by the human auditory system, generally considered to be 0 dB for persons with perfect hearing.
Threshold of Pain	Approximately 120 dB above the threshold of hearing.
Impulsive	Sound of short duration, usually less than one second, with an abrupt onset and rapid decay.
Simple Tone	Any sound which can be judged as audible as a single pitch or set of single pitches.

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Appendix B
Reverie Retreat
24hr Continuous Noise Monitoring - Site A
Friday, October 21, 2016

Hour	Leq	Lmax	L50	L90
0:00	35	39	34	32
1:00	35	39	34	33
2:00	34	40	33	32
3:00	34	39	34	33
4:00	34	41	34	32
5:00	33	53	32	30
6:00	33	44	32	30
7:00	35	48	34	32
8:00	34	55	33	30
9:00	37	57	30	26
10:00	39	60	28	24
11:00	40	64	33	27
12:00	34	53	31	27
13:00	37	54	30	25
14:00	35	59	30	25
15:00	34	48	31	26
16:00	36	50	33	27
17:00	39	57	34	28
18:00	37	50	35	28
19:00	41	56	39	36
20:00	38	53	36	34
21:00	38	49	37	36
22:00	38	57	37	35
23:00	37	52	35	32

	Statistical Summary					
	Daytime (7 a.m. - 10 p.m.)			Nighttime (10 p.m. - 7 a.m.)		
	High	Low	Average	High	Low	Average
Leq (Average)	41	34	37	38	33	35
Lmax (Maximum)	64	48	54	57	39	45
L50 (Median)	39	28	33	37	32	34
L90 (Background)	36	24	29	35	30	32

Computed Ldn, dB	42
% Daytime Energy	74%
% Nighttime Energy	26%

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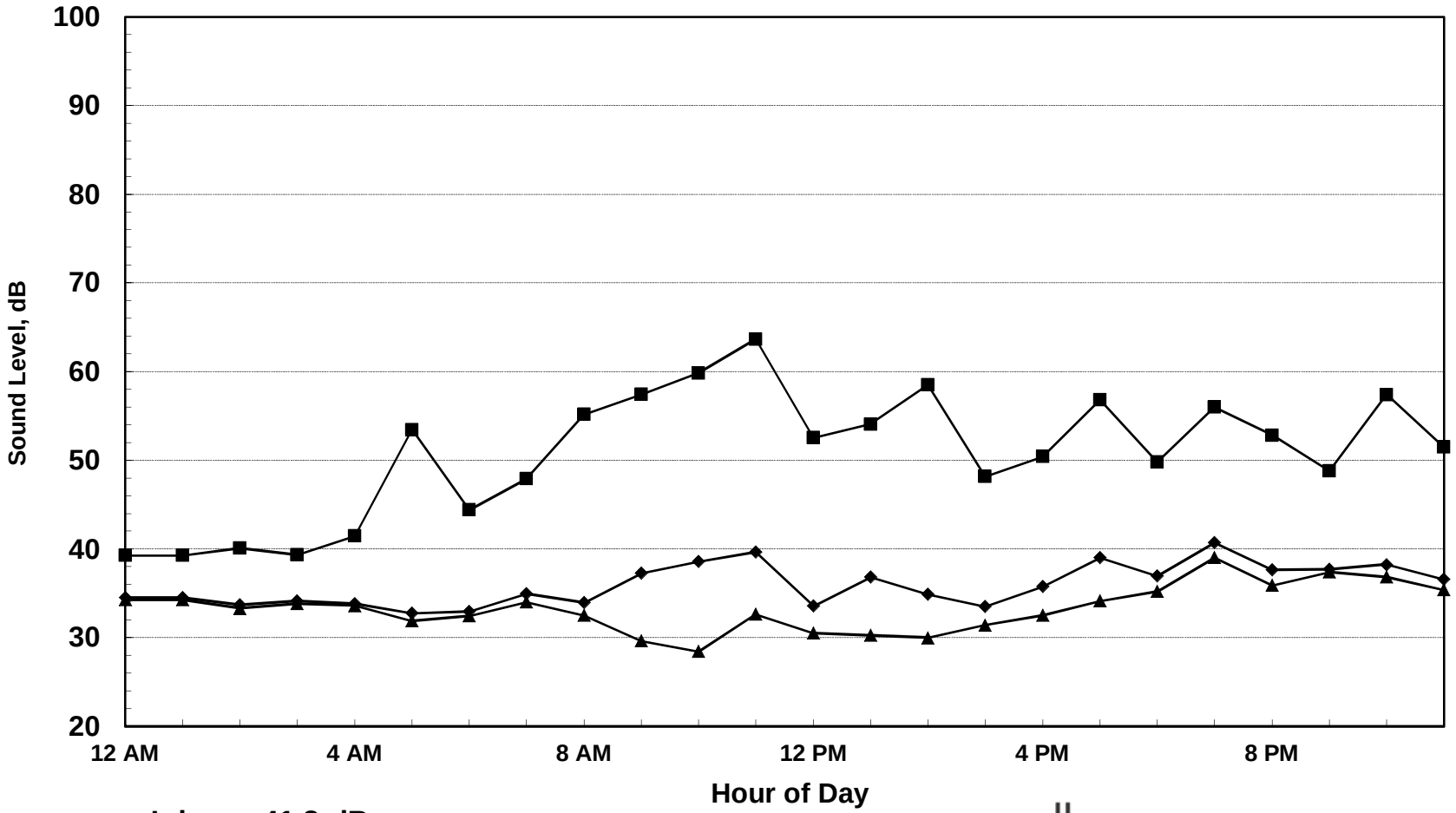
Appendix B
Reverie Retreat
24hr Continuous Noise Monitoring - Site A
Friday, October 21, 2016



Ldn = 41.8 dB

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Appendix B
Reverie Retreat
24hr Continuous Noise Monitoring - Site A
Saturday, October 22, 2016

Hour	Leq	Lmax	L50	L90
0:00	36	49	35	33
1:00	33	40	33	32
2:00	34	37	33	32
3:00	34	41	34	32
4:00	35	50	35	33
5:00	32	39	32	31
6:00	34	52	33	31
7:00	34	51	32	29
8:00	35	54	30	27
9:00	33	52	28	24
10:00	35	52	29	25
11:00	34	58	31	25
12:00	36	55	33	29
13:00	37	48	35	31
14:00	38	57	33	27
15:00	41	64	32	26
16:00	38	58	32	26
17:00	36	53	32	25
18:00	38	55	35	27
19:00	37	54	36	33
20:00	36	48	35	33
21:00	35	46	34	32
22:00	34	47	33	31
23:00	34	49	34	31

	Statistical Summary					
	Daytime (7 a.m. - 10 p.m.)			Nighttime (10 p.m. - 7 a.m.)		
	High	Low	Average	High	Low	Average
Leq (Average)	41	33	37	36	32	34
Lmax (Maximum)	64	46	54	52	37	45
L50 (Median)	36	28	32	35	32	33
L90 (Background)	33	24	28	33	31	32

Computed Ldn, dB	41
% Daytime Energy	75%
% Nighttime Energy	25%

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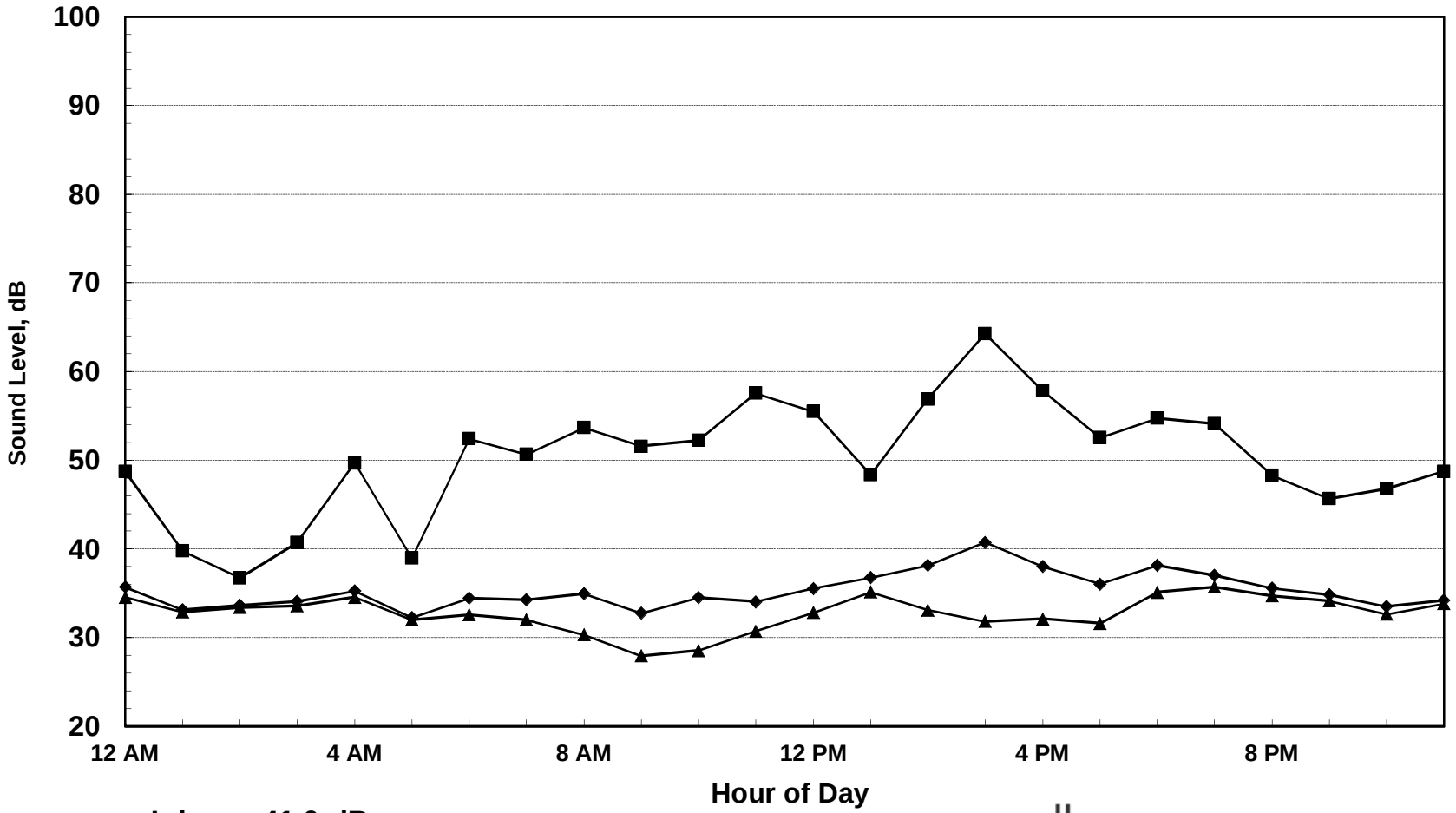
Appendix B
Reverie Retreat
24hr Continuous Noise Monitoring - Site A
Saturday, October 22, 2016



Ldn = 41.0 dB

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Appendix B
Reverie Retreat
24hr Continuous Noise Monitoring - Site A
Sunday, October 23, 2016

Hour	Leq	Lmax	L50	L90
0:00	33	42	32	30
1:00	32	44	31	28
2:00	30	36	30	28
3:00	28	31	28	26
4:00	29	34	29	27
5:00	28	36	28	26
6:00	29	43	28	25
7:00	33	52	30	28
8:00	35	56	29	27
9:00	35	53	30	26
10:00	37	59	29	25
11:00	35	53	32	28
12:00	39	53	38	32
13:00	38	51	37	33
14:00	44	67	37	32
15:00	36	51	35	30
16:00	48	76	34	30
17:00	35	50	32	27
18:00	36	49	35	27
19:00	36	54	35	33
20:00	37	50	36	32
21:00	35	52	34	30
22:00	34	54	31	28
23:00	39	60	30	28

	Statistical Summary					
	Daytime (7 a.m. - 10 p.m.)			Nighttime (10 p.m. - 7 a.m.)		
	High	Low	Average	High	Low	Average
Leq (Average)	48	33	40	39	28	33
Lmax (Maximum)	76	49	55	60	31	42
L50 (Median)	38	29	33	32	28	30
L90 (Background)	33	25	29	30	25	28

Computed Ldn, dB	41
% Daytime Energy	89%
% Nighttime Energy	11%

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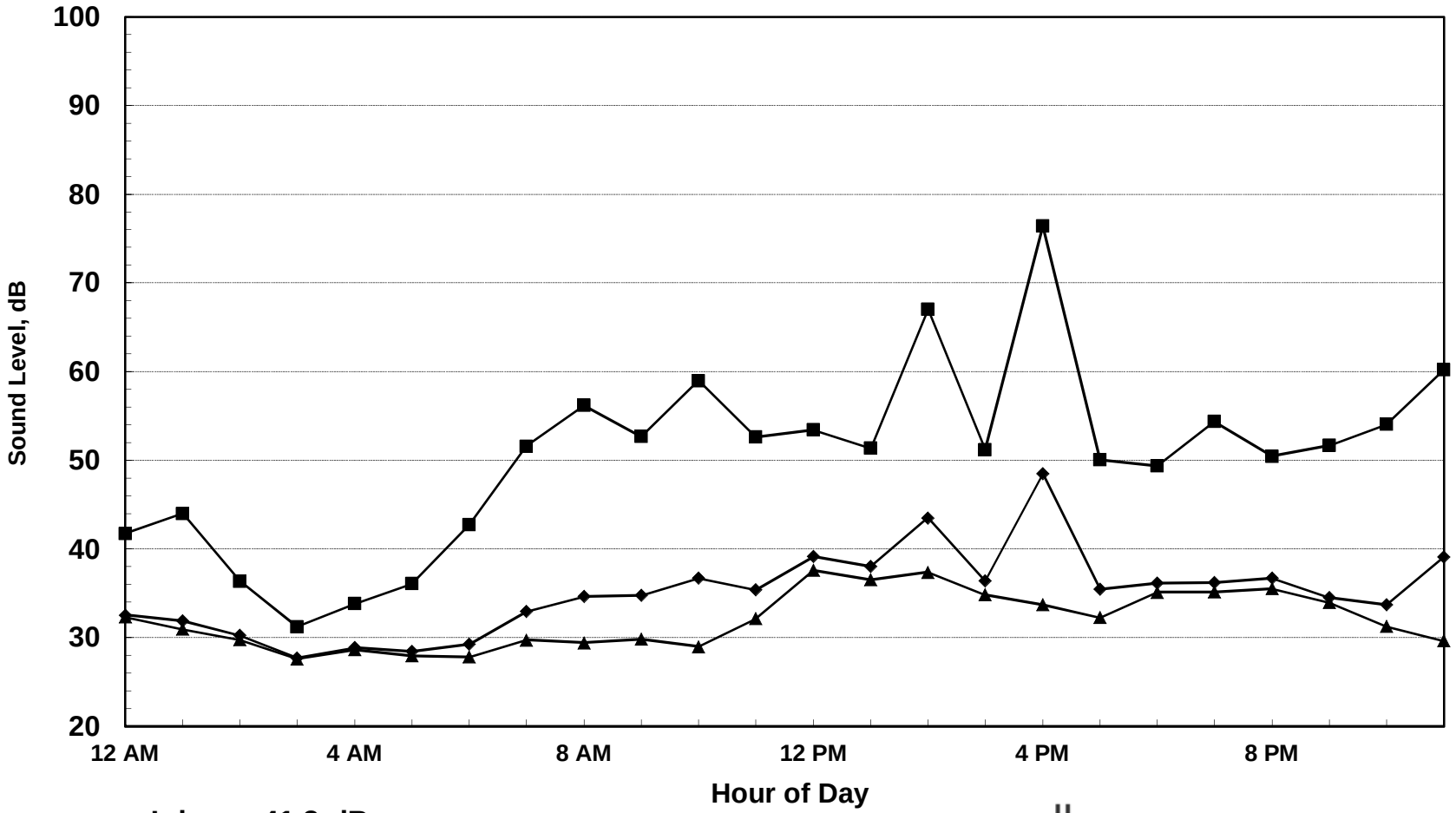
Appendix B
Reverie Retreat
24hr Continuous Noise Monitoring - Site A
Sunday, October 23, 2016



Ldn = 41.3 dB

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Appendix B
Reverie Retreat
24hr Continuous Noise Monitoring - Site B
Friday, October 21, 2016

Hour	Leq	Lmax	L50	L90
0:00	38	48	38	36
1:00	39	49	39	37
2:00	39	46	39	37
3:00	39	48	39	38
4:00	39	46	38	37
5:00	39	52	38	36
6:00	42	59	39	37
7:00	47	63	42	39
8:00	42	58	40	38
9:00	41	58	37	33
10:00	41	59	36	30
11:00	46	63	38	33
12:00	49	66	39	34
13:00	42	62	38	35
14:00	46	73	40	31
15:00	39	53	37	32
16:00	42	58	40	34
17:00	43	61	40	34
18:00	47	71	41	34
19:00	43	57	41	39
20:00	41	53	40	39
21:00	42	52	41	40
22:00	42	53	41	40
23:00	41	51	40	38

	Statistical Summary					
	Daytime (7 a.m. - 10 p.m.)			Nighttime (10 p.m. - 7 a.m.)		
	High	Low	Average	High	Low	Average
Leq (Average)	49	39	44	42	38	40
Lmax (Maximum)	73	52	61	59	46	50
L50 (Median)	42	36	39	41	38	39
L90 (Background)	40	30	35	40	36	37

Computed Ldn, dB	47
% Daytime Energy	81%
% Nighttime Energy	19%

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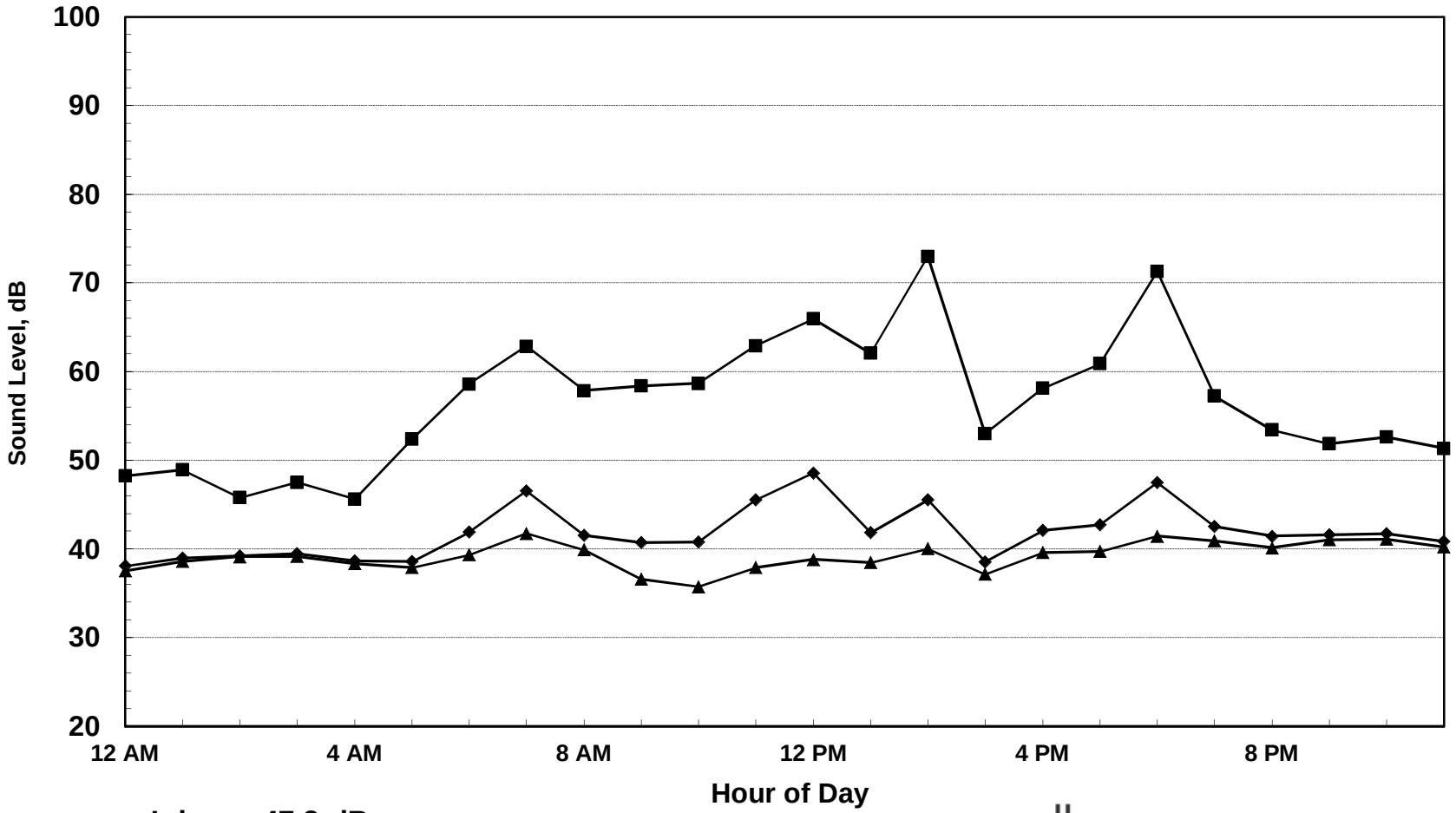
Appendix B
Reverie Retreat
24hr Continuous Noise Monitoring - Site B
Friday, October 21, 2016



Ldn = 47.2 dB

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Appendix B
Reverie Retreat
24hr Continuous Noise Monitoring - Site B
Saturday, October 22, 2016

Hour	Leq	Lmax	L50	L90
0:00	42	51	41	39
1:00	40	44	39	38
2:00	39	51	39	37
3:00	40	45	40	38
4:00	42	49	42	40
5:00	41	50	40	39
6:00	43	53	43	41
7:00	41	53	40	37
8:00	41	60	38	33
9:00	40	66	37	31
10:00	43	62	37	32
11:00	41	56	38	32
12:00	43	62	39	34
13:00	45	63	41	37
14:00	46	67	40	35
15:00	43	64	38	33
16:00	42	61	38	33
17:00	40	56	37	29
18:00	41	54	39	33
19:00	40	52	39	37
20:00	40	51	39	37
21:00	40	51	40	38
22:00	39	48	39	37
23:00	38	56	37	35

	Statistical Summary					
	Daytime (7 a.m. - 10 p.m.)			Nighttime (10 p.m. - 7 a.m.)		
	High	Low	Average	High	Low	Average
Leq (Average)	46	40	42	43	38	41
Lmax (Maximum)	67	51	58	56	44	50
L50 (Median)	41	37	39	43	37	40
L90 (Background)	38	29	34	41	35	38

Computed Ldn, dB	47
% Daytime Energy	71%
% Nighttime Energy	29%

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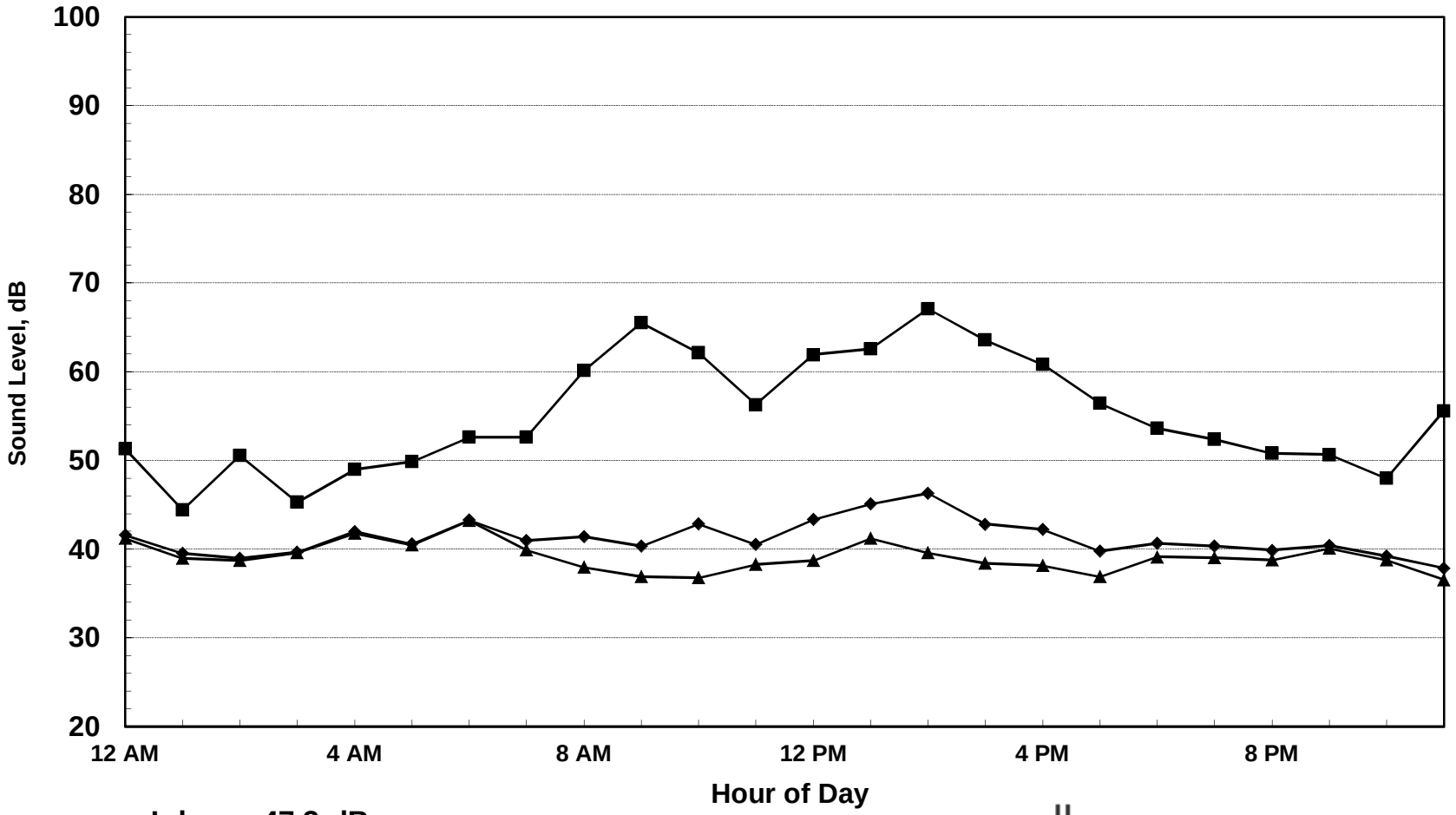
Appendix B
Reverie Retreat
24hr Continuous Noise Monitoring - Site B
Saturday, October 22, 2016



Ldn = 47.3 dB

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Appendix B
Reverie Retreat
24hr Continuous Noise Monitoring - Site B
Sunday, October 23, 2016

Hour	Leq	Lmax	L50	L90
0:00	36	50	35	34
1:00	36	51	35	34
2:00	36	55	35	33
3:00	34	41	33	32
4:00	36	45	35	33
5:00	37	51	36	34
6:00	38	48	37	35
7:00	39	49	38	36
8:00	40	59	38	36
9:00	39	56	37	33
10:00	46	68	38	34
11:00	42	57	39	35
12:00	44	56	42	38
13:00	43	56	42	37
14:00	46	68	42	38
15:00	41	53	40	36
16:00	42	62	39	35
17:00	40	60	37	33
18:00	47	71	40	36
19:00	51	78	41	39
20:00	40	56	39	37
21:00	38	47	37	34
22:00	36	47	35	32
23:00	41	62	35	32

	Statistical Summary					
	Daytime (7 a.m. - 10 p.m.)			Nighttime (10 p.m. - 7 a.m.)		
	High	Low	Average	High	Low	Average
Leq (Average)	51	38	44	41	34	37
Lmax (Maximum)	78	47	60	62	41	50
L50 (Median)	42	37	39	37	33	35
L90 (Background)	39	33	36	35	32	33

Computed Ldn, dB	45
% Daytime Energy	90%
% Nighttime Energy	10%

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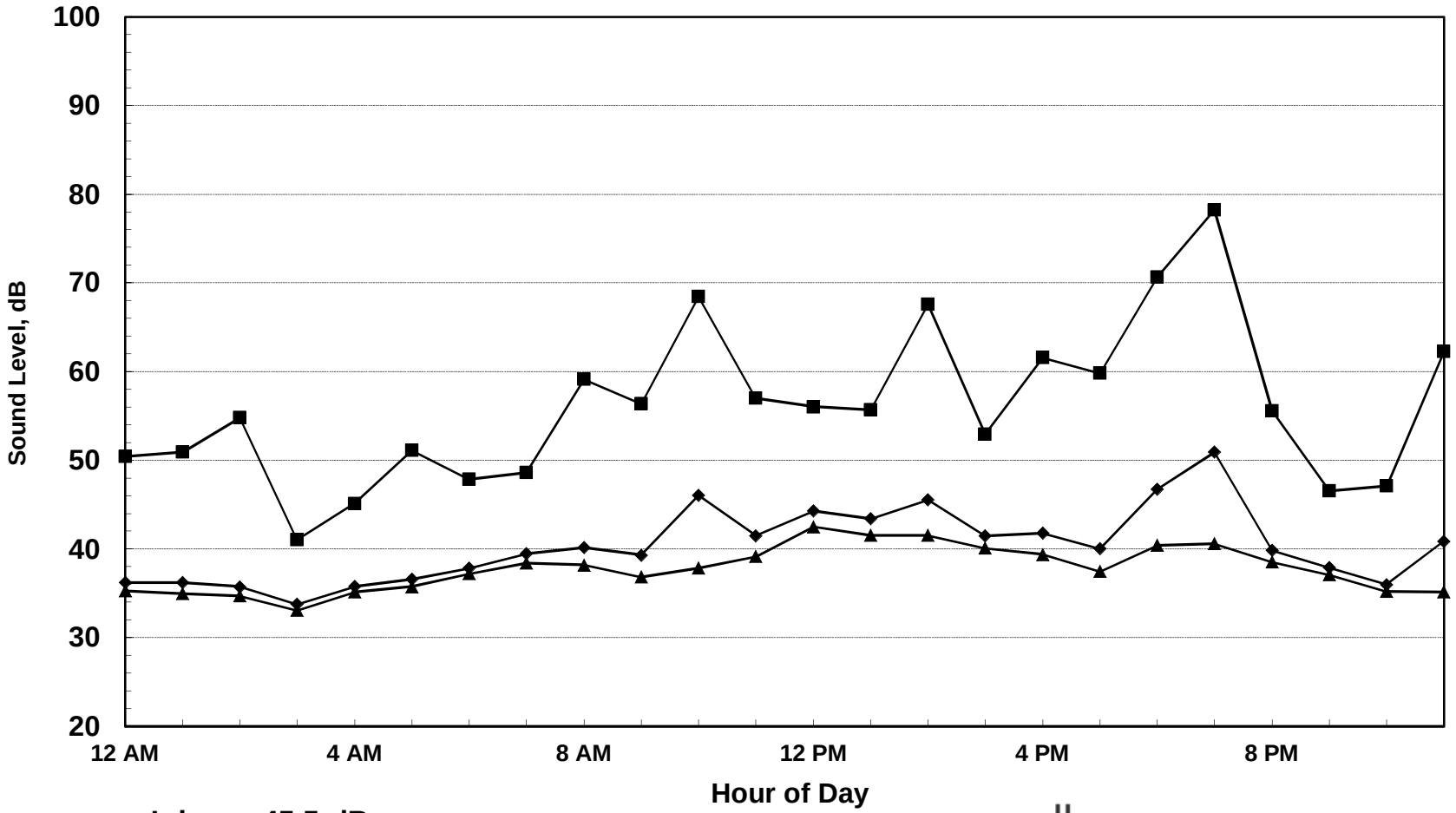
Appendix B
Reverie Retreat
24hr Continuous Noise Monitoring - Site B
Sunday, October 23, 2016



Ldn = 45.5 dB

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Appendix C

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

Project Information:

Job Number: 2016-203
Project Name: Reverie Retreat
Roadway Name: Spanish Flat Road

Traffic Data:

Year:	Future
Average Daily Traffic Volume:	62
Percent Daytime Traffic:	99
Percent Nighttime Traffic:	1
Percent Medium Trucks (2 axle):	0
Percent Heavy Trucks (3+ axle):	0
Assumed Vehicle Speed (mph):	45
Intervening Ground Type (hard/soft):	**Soft**

Traffic Noise Levels:

				----------L_{dn}, dB----------			
Location:	**Description**	**Distance**	**Offset (dB)**	**Autos**	**Medium Trucks**	**Heavy Trucks**	**Total**
1	Nearest Receptor	150	0	34	-28	-34	34

Traffic Noise Contours (No Calibration Offset):

L_{dn} Contour, dB	Distance from Centerline, (ft)
75	0
70	1
65	1
60	3

Notes:

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