Appendix L

Noise and Vibration Assessment

Environmental Noise & Vibration Assessment

Koi Nation Shiloh Resort & Casino

Sonoma County, California

BAC Job # 2022-051

Prepared For:

Acorn Environmental

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Table of Contents

Introduction

The Koi Nation of Northern California proposes to construct and operate the Shiloh Resort and Casino (Project), on an approximately 67-acre site within Sonoma County, California. It is bordered partially by the Town of Windsor and mostly by unincorporated Sonoma County. Existing land uses in the immediate project vicinity include residential, agricultural, and commercial. The existing Project area is currently used an active vineyard containing a residence. The Project location is shown on Figure 1.

Bollard Acoustical Consultants, Inc. (BAC) was retained by the project environmental consultant, Acorn Environmental, to prepare this noise and vibration impact assessment in support of the Draft Environmental Assessment (EA) being prepared for this project per the National Environmental Policy Act (NEPA) guidelines.

Project Alternatives

Alternative A: Proposed Project

Alternative A constitutes the proposed project and consists of the following components: development of a three-story casino, a five-story hotel with spa and pool area, ballrooms/meeting space, event center, and associated parking and infrastructure on the Project Site. Alternative A is shown on Figure 2.

The resort would be open 24 hours a day, 7 days a week. The proposed hotel would include 400 guest rooms. It is anticipated that the event center would host concerts and performances while the ballrooms/meeting space would host banquets, conferences, or other special events. Parking for the resort facility would be provided on the ground floor of the casino, as well as a four-story parking garage and paved surface parking lot on the eastern side of Pruitt Creek. An enclosed pedestrian bridge would connect the parking garage with the casino approximately 12 feet above Pruitt Creek.

Other supporting infrastructure, including the proposed water treatment and wastewater treatment facilities would be located on the southeastern portion of the Project Site. Some water treatment and wastewater treatment facility equipment would be located in a building or would be included on a fully enclosed equipment pad for sound attenuation. An operations building would be constructed to house plant controls, the motor control center, maintenance facilities, chemical storage and metering, a laboratory, restroom/ washroom, and offices/space for staff.

Emergency onsite generators will be installed to provide power to the development in the event that PG&E is unable to provide electricity due to a planned or unplanned disruption in service. There would be five 1650ekW (2062 kVA) diesel generators (Cat® 3516C or similar), with one generator providing redundancy. These generators would each be situated on 8 to 12 foot rebar re-enforced pads.

Construction of Alternative A is conservatively assumed to occur in one phase beginning in 2026 and lasting 18 to 24 months, with an anticipated opening day in 2028. Construction of the parking garage and parking lot, on-site utilities, and landscaping would occur simultaneously with construction of the resort and casino.

Alternative B: Reduced Intensity Alternative

Alternative B consists of the following components: development by the Tribe of a resort facility that includes a three-story casino, a three-story hotel with spa and pool area, ballroom/meeting space, and associated parking and infrastructure on the Project Site. Alternative B is similar to Alternative A, except that the number of hotel rooms is reduced to 200 and the large ballroom, the event center, and the surface parking lot are eliminated. The conceptual site plan for Alternative B is shown in Figure 3.

As with Alternative A, Alternative B would be open 24 hours a day, 7 days a week. Alternative B would employ fewer people and attract fewer patrons than Alternative A. Water supply, wastewater treatment and disposal, grading and drainage, roadway access and circulation, and utilities under Alternative B would be similar to Alternative A but with a reduced demand for services due to the smaller development size. The construction methods for Alternative B would be identical to those for Alternative A.

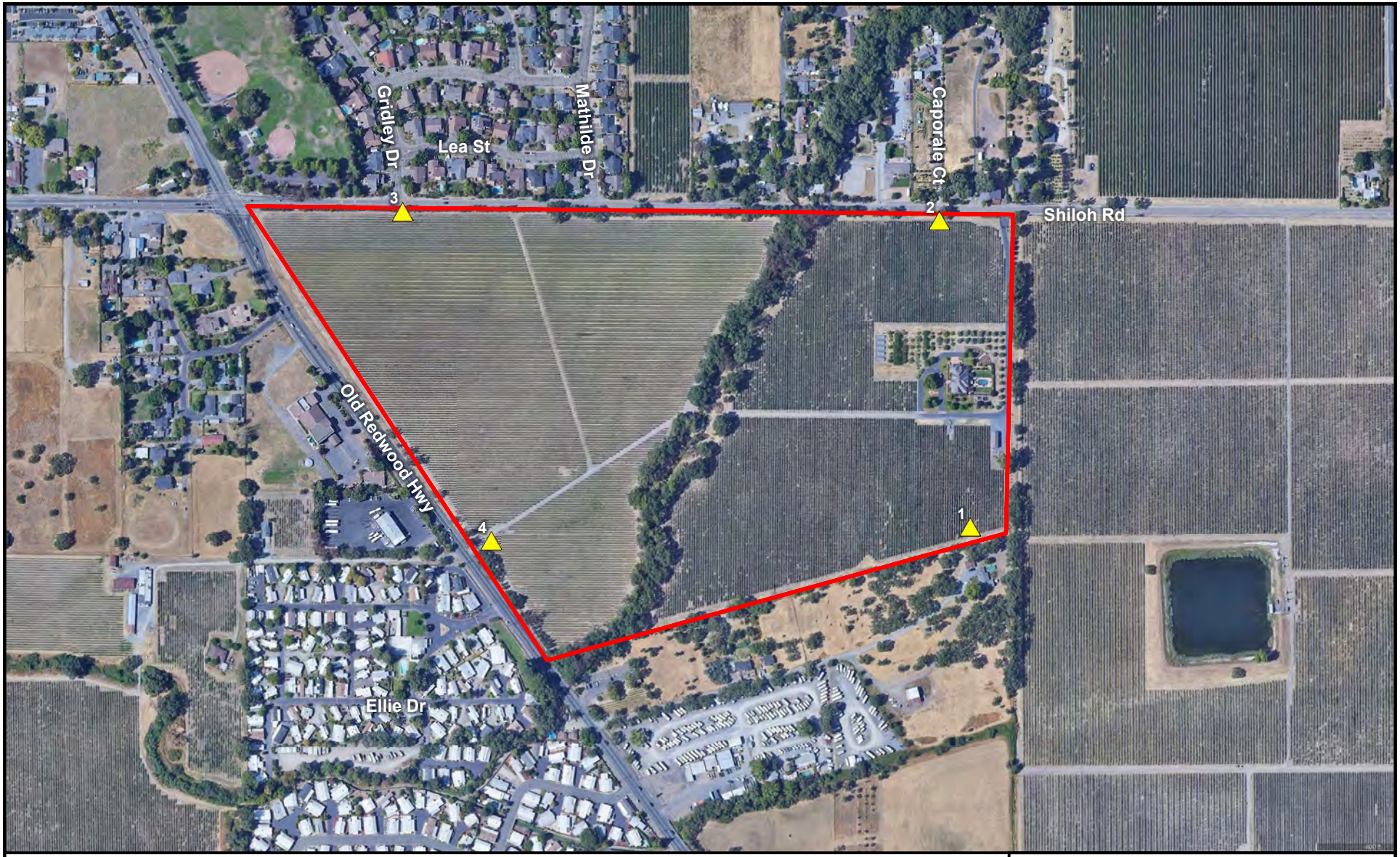
Alternative C: Non-Gaming Alternative

Alternative C consists of the following components: development by the Tribe of a winery and hotel that would include a visitor center, a 200-room hotel with spa and pool area, a restaurant, and associated parking and infrastructure on the Project Site. The conceptual site plan for Alternative C is shown in Figure 4.

Regular winery production hours would be 7 am to 6 pm, Monday through Friday; while wine production hours during the harvest season (typically late August through mid-October) would be 6 am to 10 pm, seven days per week. The proposed tasting room hours would be open 11 am to 7 pm, seven days per week. The hotel would be open 24 hours a day, seven days a week. Construction of Alternative C is conservatively assumed to occur in one phase beginning in 2026 and lasting 12 to 18 months, with an anticipated opening day in 2028.

Alternative D: No Action Alternative

Under the No Action Alternative, none of the development alternatives would be implemented. No land would be placed in federal trust for the benefit of the Tribe. The No Action Alternative assumes that the existing agricultural use of the site as a vineyard would continue for the foreseeable future.



Legend

Project Border (Approximate)

Long-term Noise & Short-term Vibration Measurement Locations

N

Scale (Feet)

0 200 400

Shiloh Resort & Casino

Sonoma County, California

Project Area

Figure 1

BOLLARD Acoustical Consultants

Shiloh Resort & Casino

Sonoma County, California

Site Plan – Alternative A – Proposed Project

Figure 2

BOLLARD Acoustical Consultants

N

Scale (Feet)

0 250 500

Shiloh Resort & Casino

Sonoma County, California

Site Plan – Alternative B – Reduced Intensity Project

Figure 3

BOLLARD Acoustical Consultants

Shiloh Resort & Casino

Sonoma County, California

Site Plan – Alternative C – Non-Gaming Project

Figure 4

BOLLARD Acoustical Consultants

Affected Environment

This section describes the existing noise conditions in the vicinity of the project site. The general and site-specific description of the noise setting contained herein provides the environmental baseline by which direct, indirect, and cumulative environmental effects are identified.

Acoustical Background and Terminology

General

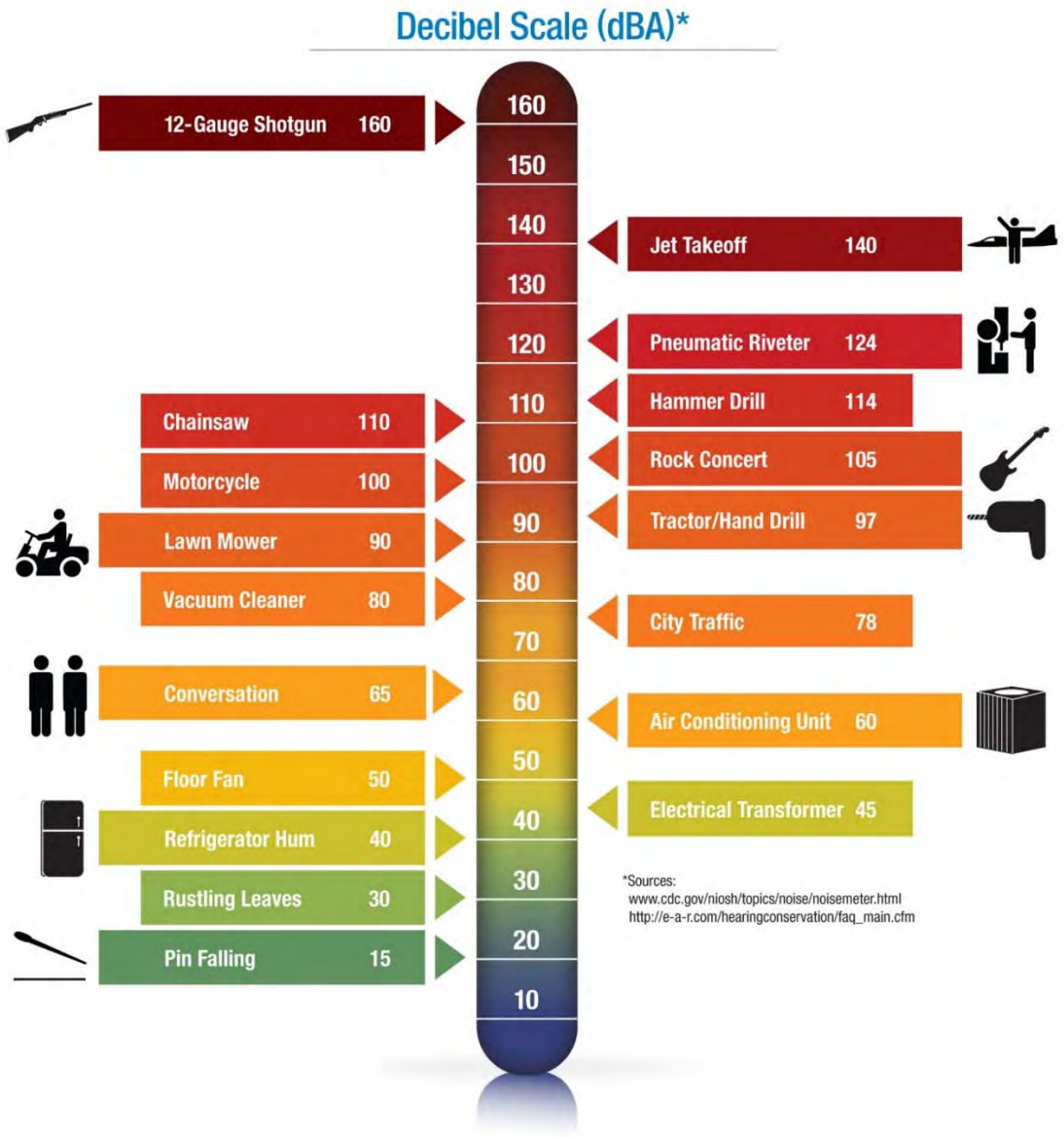
Noise is often described as unwanted sound. Sound is defined as any pressure variation in air that the human ear can detect. If the pressure variations occur frequently enough (at least 20 times per second), they can be heard and are designated as sound. The number of pressure variations per second is called the frequency of sound and is expressed as cycles per second, or Hertz (Hz). Definitions of acoustical terminology are provided in Appendix A.

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 of pressure) as a point of reference, defined as 0 dB. Other sound pressures are then compared to the 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. Another useful aspect of the decibel scale is that changes in decibel levels correspond closely to human perception of relative loudness. Noise levels associated with common noise sources are provided in Figure 5.

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 filtering the frequency response of a sound level meter by means of the standardized A-weighting network. There is a strong correlation between A-weighted sound levels (expressed as dBA) and community response to noise. For this reason, the A-weighted sound level has become the standard tool of environmental noise assessment. All noise levels presented in this evaluation are in terms of A-weighted levels.

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 noise environment. A common statistical tool to measure the ambient noise level is the average, or equivalent, sound level (L_{eq}). The L_{eq} is the foundation of the day-night average noise descriptor, DNL (or L_{dn}), and shows very good correlation with community response to noise. DNL is based on the average noise level over a 24-hour day, with a +10-decibel weighting applied to noise occurring during nighttime (10:00 PM to 7:00 AM) hours. The nighttime penalty is based on the assumption that people react to nighttime noise exposures as though they were twice as loud as daytime exposures. Because DNL represents a 24-hour average, it tends to disguise short-term variations in the noise environment.

Figure 5
Noise Levels Associated with Common Noise Sources



Effects of Noise on People

The effects of noise on people can be divided into three categories:

1. Subjective effects of annoyance, nuisance, dissatisfaction;
2. Interference with activities such as speech, sleep, and learning; and
3. 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 third 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.

Human reaction to a new noise can be estimated through comparison of the new noise to the existing ambient noise level within a given environment. In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise will likely be judged by the recipients. With regard to increases in dBA noise levels, 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.
- A 10-dBA change is subjectively heard as approximately a doubling in loudness and can cause adverse response.

Noise effects on humans can be physical or behavioral in nature. The mechanism for chronic exposure to noise leading to hearing loss is well established. The elevated sound levels cause trauma to the cochlear structure in the inner ear, which gives rise to irreversible hearing loss. Though not considered a health effect similar to those noted above, noise pollution also constitutes a significant factor of annoyance and distraction in modern artificial environments:

- The meaning listeners attribute to the sound influences annoyance; if listeners dislike the noise content, they are annoyed.
- If the sound causes activity interference (for example, sleep disturbance), it is more likely to annoy.
- If listeners feel they can control the noise source, it less likely to be perceived as annoying.
- If listeners believe that the noise is subject to third party control, including police, but control has failed, they are more annoyed.

Generally, most noise is generated by transportation systems, principally motor vehicle noise, but also including aircraft noise and rail noise. The level of traffic noise depends on three things: l) the volume of the traffic, 2) the speed of the traffic, and 3) the number of trucks in the flow of the traffic. Because noise

is measured on a logarithmic scale, 70 dBA plus 70 dBA does not equal 140 dBA. Instead, two sources of equal noise added together have been found to result in an increase of 3 dBA. That is, if a certain volume of traffic results in a noise level of 70 dBA the addition of the same volume of traffic, or doubling, would result in a noise level of 73 dBA (Caltrans, 2013a). As stated above, 3 dBA is just audible; therefore, if a project doubles the traffic volume there would be an audible increase in the ambient noise level.

Stationary points of noise attenuate (lessen) at a rate of 6 to 9 dBA per doubling of distance from the source, depending on environmental conditions (i.e., atmospheric conditions and noise barriers, vegetative or manufactured, etc.). Widely distributed noises, such as a large industrial facility or a street with moving vehicles would typically attenuate at a lower rate, approximately 4 to 6 dBA per doubling of distance.

Vibration Background & Terminology

Vibration is like noise in that it involves a source, a transmission path, and a receiver. While vibration is related to noise, it differs in that noise is generally considered to be pressure waves transmitted through air, while vibration is usually associated with transmission through the ground or structures. As with noise, vibration consists of an amplitude and frequency. A person's response to vibration will depend on their individual sensitivity as well as the amplitude and frequency of the source.

Vibration can be described in terms of acceleration, velocity, or displacement. A common practice is to monitor vibration in terms of velocity in inches per second peak particle velocity (IPS, PPV) or root-mean-square velocity in decibels (VdB, RMS). Standards pertaining to perception as well as damage to structures have been developed for vibration in terms of peak particle velocity as well as RMS velocities. In terms of RMS velocities, vibration levels below approximately 65 VdB are typically considered to be below the threshold of perception (FTA 2018).

As vibrations travel outward from the source, they excite the particles of rock and soil through which they pass and cause them to oscillate. Differences in subsurface geologic conditions and distance from the source of vibration will result in different vibration levels characterized by different frequencies and intensities. In all cases, vibration amplitudes will decrease with increasing distance. At high enough amplitudes, ground vibration has the potential to damage structures and/or cause cosmetic damage. Ground vibration can also be a source of annoyance to individuals who live or work close to vibration-generating activities. However, traffic, rarely generates vibration amplitudes high enough to cause structural or cosmetic damage.

Regulatory Setting

Federal Highway Administration Construction Noise Abatement Criteria

The Federal Highway Administration (FHWA) provides construction noise level thresholds in its Construction Noise Handbook, 2006, which are provided in Table 1.

Table 1
Federal Construction Noise Thresholds

Noise Receptor Locations and Land Uses	Daytime (7 am- 6 pm)	Evening (6 pm – 10 pm)	Nighttime (10 pm – 7 am)
	dBA, Leq[1]		
Noise-Sensitive Locations: (residences, institutions, hotels, etc.)	78 or Baseline +5 (whichever is louder)	Baseline +5	Baseline +5 (if Baseline < 70) or Baseline + 3 (if Baseline > 70)
Commercial Areas: (businesses, offices, stores, etc.)	83 or Baseline + 5	None	None
Industrial Areas: (factories, plants, etc.)	88 or Baseline + 5	None	None
Source: FHWA Construction Noise Handbook, 2006			

Federal Noise Abatement Criteria

Operational noise standards used in this study are FHWA Noise Abatement Criteria (NAC) for the assessment of noise consequences related to surface traffic and other project-related noise sources. These standards are discussed below.

The FHWA establishes NAC for various land uses that have been categorized based upon activity. Land uses are categorized on the basis of their sensitivity to noise as indicated in Table 2. The FHWA NAC is based on peak traffic hour noise levels. Sensitive receptors with the potential to be impacted by the project alternatives primarily consist of residential land uses; thus, the Category B noise standard (67 dBA Leq) would apply to those uses.

Table 2
Federal Noise Abatement Criteria

Activity Category	Activity Criteria, Leq [dBA]	Evaluation Location	Activity Description
A	57	Exterior	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B[1]	67	Exterior	Residential.
C[1]	67	Exterior	Active sport areas, amphitheaters, auditoriums, campgrounds, cemeteries, day care centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreation areas, Section 4(f) sites, schools, television studios, trails, and trail crossings.
D	52	Interior	Auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, schools, and television studios.
E[1]	72	Exterior	Hotels, motels, offices, restaurants/bars, and other developed lands, properties or activities not included in A-D or F.
F	--	--	Agriculture, airports, bus yards, emergency services, industrial, logging, maintenance facilities, manufacturing, mining, rail yards, retail facilities, shipyards, utilities (water resources, water treatment, electrical), and warehousing.
G	--	--	Undeveloped lands that are not permitted.

Notes
1. Includes undeveloped lands permitted for this activity category.

Source: Title 23 CFR Part 772, Table 1 to Part 772 – Noise Abatement Criteria

Sonoma County General Plan Noise Element

The following policies from the Sonoma County Noise Element of the 2020 General Plan may be applicable to the project;

Policy NE-1a: Designate areas within Sonoma County as noise impacted if they are exposed to existing or projected exterior noise levels exceeding 60 dB Ldn, 60 dB CNEL, or the performance standards of Table NE-2 (Table NE-2 is reproduced below as Table 3).

Policy NE-1b: Avoid noise sensitive land use development in noise impacted areas unless effective measures are included to reduce noise levels. For noise due to traffic on public roadways, railroads and airports, reduce exterior noise to 60 dB Ldn or less in outdoor activity areas and interior noise levels to 45 dB Ldn or less with windows and doors closed. Where it is not possible to meet this 60 dB Ldn standard using a practical application of the best available noise reduction technology, a maximum level of up to 65 dB Ldn may be allowed but interior noise level shall be maintained so as not to exceed 45 dB Ldn. For

uses such as Single Room Occupancy, Work-Live, Mixed Use Projects, and Caretaker Units, exterior noise levels above 65 dB Ldn or the Table NE-2 standards may be considered if the interior standards of 45 dB Ldn can be met. For schools, libraries, offices, and other similar uses, the interior noise standard shall be 45 dB Leq in the worst case hour when the building is in use.

Policy NE-1c: Control non-transportation related noise from new projects. The total noise level resulting from new sources shall not exceed the standards in General Plan Table NE-2 (reproduced below as Table 3), of the recommended revised policies as measured at the exterior property line of any adjacent noise sensitive land use. Limit exceptions to the following:

(1) If the ambient noise level exceeds the standard in Table 3, adjust the standard to equal the ambient level, up to a maximum of 5 dBA above the standard, provided that no measurable increase (i.e., +/- 1.5 dBA) shall be allowed.

(2) Reduce the applicable standards in Table 3 by five dBA for simple tone noises, noises consisting primarily of speech or music, or for recurring impulsive noises, such as pile drivers and dog barking at kennels.

(3) Reduce the applicable standards in Table 3 by 5 decibels if the proposed use exceeds the ambient level by 10 or more decibels.

Note that an analysis of the noise generation of the project follows. In cases where the proposed project would cause noise levels to exceed ambient noise levels by more than 10 dB, this 5 dB additional reduction in noise standards is applied.

(5) Noise levels may be measured at the location of the outdoor activity area of the noise sensitive land use, instead of at the exterior property line of the adjacent noise sensitive use where:

(a) The property on which the noise sensitive use is located has already been substantially developed pursuant to its existing zoning, and

(b) There is available open land on these noise sensitive lands for noise attenuation.

This exception may not be used for vacant properties, which are zoned to allow noise sensitive uses.

Table 3
Maximum Allowable Noise Exposures for Non-transportation Sources
(Sonoma County General Plan Noise Element Table NE-2)

Hourly Noise Metric[1]	Maximum Exterior Noise Level Standards [dBA]	
	Daytime: 7 AM to 10 PM	Nighttime: 10 PM to 7 AM
L_{50} (30 minutes in any hour)	50	45
L_{25} (15 minutes in any hour)	55	50
L_{08} (5 minutes in any hour)	60	55
L_{02} (1 minute in any hour)	65	60

Notes

1. The sound level exceeded n% of the time in any hour. For example, the L_{50} is the value exceeded 50% of the time or 30 minutes in any hour; this is the median noise level. The L_{02} is the sound level exceeded 1 minute in any hour.

Source: Sonoma County General Plan Noise Element Table NE-2

For purposes of this evaluation, it was conservatively assumed that maximum noise levels would be approximately equivalent to L_{02} values (i.e. the loudest minute of any hour) and that average (L_{eq}) noise levels would be approximately equivalent to median (L_{50}) noise levels.

Policy NE-1d: Consider requiring an acoustical analysis prior to approval of any discretionary project involving a potentially significant new noise source or a noise sensitive land use in a noise impacted area. The analysis shall:

(1) Be the responsibility of the applicant,

(2) Be prepared by a qualified acoustical consultant,

(3) Include noise measurements adequate to describe local conditions,

(4) Include estimated noise levels in terms of Ldn and/or the standards of Table NE-2 for existing and projected future (20 years hence) conditions, based on accepted engineering data and practices, with a comparison made to the adopted policies of the Noise Element. Where low frequency noise (ex: blasting) would be generated, include assessment of noise levels and vibration using the most appropriate measuring technique to adequately characterize the impact,

(5) Recommend measures to achieve compliance with this Element. Where the noise source consists of intermittent single events, address the effects of maximum noise levels on sleep disturbance,

(6) Include estimates of noise exposure after these measures have been implemented, and

(7) Be reviewed by the Permit and Resource Management Department and found to be in compliance with PRMD guidelines for the preparation of acoustical analyses.

Policy NE-1f: Require development projects that do not include or affect residential uses or other noise sensitive uses to include noise mitigation measures where necessary to maintain noise levels compatible with activities planned for the project site and vicinity.

Policy NE-1g: Enforce the State Noise Insulation Standards (Title 24, Part 2, California Administrative Code and Appendix Chapter 12 of the California Building Code) concerning new multiple occupancy dwellings.

Policy NE-1h: Prepare and consider a noise control ordinance to regulate existing noise sources as follows:

(1) The draft ordinance shall be prepared by County Counsel with the assistance of the Public Health Department, the Sheriff's Department, and PRMD.

(2) Consider ONC guidelines and ordinances of other counties.

(3) The intent of the ordinance shall be to protect persons from existing or future excessive levels of noise which interfere with sleep, communication, relaxation, health or legally permitted use of property.

(4) Excessive levels of noise shall be defined as levels which exceed the standards of Table NE-2 and other policies of the Noise Element.

(5) In unincorporated areas of the County, it shall be unlawful to create noise which exceeds the standards of Table 2, as measured at the exterior of any noise sensitive use.

(6) The noise ordinance may contain maximum allowable levels of interior noise created by exterior sources.

(7) The ordinance may exempt or modify noise requirements for agricultural uses, construction activities, school functions, property maintenance, heating and cooling equipment, utility facilities, waste collection and other sources.

(8) The ordinance shall include responsibilities and procedures for enforcement, abatement and variances.

Policy NE-1i: County equipment and vehicles shall comply with adopted noise level performance standards consistent with the best available noise reduction technology.

Policy NE-1j: Encourage the California Highway Patrol to actively enforce sections of the California Vehicle Code relating to adequate vehicle mufflers and modified exhaust systems.

Policy NE-1k: Incorporate into the Development Code the standards and policies of the Noise Element, where appropriate.

Policy NE-1l: Review and update the Noise Element to ensure that noise information and policies are consistent with regulations and conditions within the community.

Policy NE-1m: Consider requiring the monitoring of noise levels for discretionary projects to determine if noise levels are in compliance with required standards. The cost of monitoring shall be the responsibility of the applicant.

Town of Windsor General Plan Public Health and Safety Element

The following policies from the Town of Windsor 2040 General Plan Health and Safety Element may be applicable to the project;

PHS-8.1: Ambient Sound Levels for New Development. The Town shall encourage new development to maintain the current ambient sound environment as much as possible. All noise sources that cause the ambient sound levels to rise by more than 5 dBA should be required to incorporate conditions or design modifications to reduce the potential increase in the noise environment.

PHS-8.2: Exterior Noise Standards for New Development. The Town shall require new development to meet exterior noise level standards as established in the noise and land use compatibility guidelines contained in General Plan Figure PHS-4. For residential areas, these exterior noise guidelines apply to the primary usable outdoor area.

PHS-8.3: Interior Noise Threshold for New Residential. The Town shall require new residential projects to provide for an interior CNEL of 45 dB or less due to exterior noise sources. To accomplish this, all residential and other noise sensitive land uses within the 60 dB contours or greater as defined in General Plan Figure PHS-5 should be reviewed to ensure that adequate noise attenuation has been incorporated into the design of the project.

PHS-8.5: Noise Attenuation Techniques. The Town shall encourage new development to identify alternatives to the use of sound walls to attenuate noise impacts. Other techniques that would be viewed more favorably by the Town include:

a. Modifications to site planning such as incorporating setbacks; and

b. Revisions to the architectural layout such as changing building orientation, providing noise attenuation for portions of outdoor yards, and construction modification (e.g., noise attenuating windows).

In the event that sound walls are the only practicable alternative, such walls shall be subject to development review to ensure that they are designed to be as aesthetically pleasing as possible, incorporating landscaping, variations in color and patterns, and/or changes in texture or building materials.

PHS-8.6: Acoustical Reports. The Town shall require that applications for development of residential or other noise-sensitive land uses in projected noise-impacted areas (greater than 55 dB CNEL) shall require an acoustical analysis, prepared at the applicant's expense. Recommendations contained in the acoustical reports shall be incorporated as conditions of any approval.

PHS-8.7: Non-Vehicular Noise. The Town shall continue to regulate non-vehicular noise sources that are not preempted by State and Federal regulations, to minimize disturbances to adjoining uses through the noise ordinance.

PHS-8.10: Construction Site Noise Restrictions. The Town shall restrict construction working hours as designated in the Municipal Code, Title VII Building and Housing Section, to allow efficient construction mobilization and activities, while also protecting the noise environment of noise sensitive land uses.

PHS-8.15: Noise Enforcement of State and Federal Standards. The Town shall continue to enforce State and Federal noise regulations regarding vehicle operation, equipment, and building insulation.

PHS-8.16: Applicable Standards in the Building Code. The Town shall continue to incorporate the most recent noise standards contained in Title 24 of the California Code of Regulations in Uniform Building Code into its own building code.

PHS-8.17: Project and Environmental Review for Noise. The Town shall consider as part of its discretionary review of proposed new development the potential for a proposed project to either generate significant new noise sources or be significantly impacted by existing noise sources as shown in Figure PHS-7. If the Town determines there may be a potential for significant noise effects related to a proposed new development, the Town shall require an acoustical study be conducted by a qualified acoustician and include appropriate mitigation measures for the proposed development based on that study.

Table 4
Maximum Noise Level by Receiving Land Use
(Table PHS-4 of Town of Windsor 2040 General Plan)

	Maximum Allowable Noise Levels		
Type of Land Use	**Time Interval**	**Exterior Noise dB(A)**	**Interior Noise dB(A)**
Single- or multi- family residential	7 a.m. – 10 p.m.	55	35
	10 p.m. to 7 a.m.	50	45
Commercial	7 a.m. – 10 p.m.	65	50
	10 p.m. to 7 a.m.	55	
Industrial or manufacturing	Any time	70	55
Public parks, public open space, and Civic Center	7 a.m. – 10 p.m.	55	N/A
	10 p.m. to 7 a.m.	50	

Notes:

(1) Each of the noise limits specified above shall be reduced by 5 dBA for impulse or simple tone noises, or for consisting of speech or music. If the ambient noise level exceeds the resulting standard, the ambient noise level shall be the standard.
(2) It shall be unlawful for any person within a residentially zoned area of the town to operate any noise amplification device (e.g., bull horns, microphones, musical instruments, speakers, etc.), that exceeds a noise level of 45 dBA measured at the property line or cause loud excessive noise which disturbs the peace of the neighborhood.
(3) In addition, Section 7-1-190 of the Town of Windsor Municipal Code restricts the timing of construction act authorized by a Town permit to the hours of 7 a.m. to 7 p.m. Monday through Friday and 8 a.m. to 7 p.m. on Saturday.

Figure PHS-7
Acceptable Exposure Levels for Community Noise Environments

Land Use Category	Community Noise Exposure Ldn/CNEL, dB						
	50-55	55-60	60-65	65-70	70-75	75-80	80-85
Residential – Low Density Single Family, Duplex, Mobile Homes							
Residential – Multifamily							
Transient Lodging – Motels, Hotels							
Schools, Libraries, Churches, Hospitals, Nursing Homes							
Auditoriums, Concert Halls, Amphitheaters							
Sports Arenas, Outdoor Spectator Sports							
Playgrounds, Neighborhood Parks							
Golf Course, Riding Stables, Water Recreation, Cemeteries							
Office Buildings, Business Commercial and Professional							
Industrial, Manufacturing Utilities, Agriculture							

NORMALLY ACCEPTABLE
Specified land use is satisfactory based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.

CONDITIONALLY ACCEPTABLE
New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.

NORMALLY UNACCEPTABLE
New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

CLEARLY UNACCEPTABLE
New construction or development should generally not be undertaken.

Criterial for Acceptable Vibration Exposure

The threshold of human discernibility (i.e., perception) for vibration is considered to be approximately 65 VdB (FTA). As such, a threshold of 65 VdB is applied to the assessment of vibration impacts for this project.

Environmental Setting

Land Uses in the Project Vicinity

Noise-sensitive land uses are generally defined as locations where people reside or where the presence of unwanted sound could adversely affect the primary intended use of the land. Places where people live, sleep, recreate, worship, and study are generally considered to be sensitive to noise because intrusive noise can be disruptive to these activities.

The Project area is bordered to the north by Shiloh Road, beyond which are park, residential and agricultural uses located within the Town of Windsor and Sonoma County. To the east and south the project site is bordered by agricultural and land uses (some containing residences), located within Sonoma County. To the west, the project site is bordered by Old Redwood Highway beyond which are residential, church, and commercial uses in Sonoma County and the growth area of the Town of Windsor. Sensitive receptors evaluated in this study include residential areas to the north and west, Shiloh Neighborhood Church to the west, Esposti Park to the north, and a few residences to the south.Figure 6 shows the locations of the nearest receptors to the project site which were analyzed in this study.

Noise Sources Affecting the Project Vicinity

The existing ambient noise environment in the immediate project vicinity is defined primarily by traffic on Shiloh Road to the north and Old Redwood Highway to the west. Agricultural operations to the east and south also periodically affect the ambient noise environment on a localized basis. Aircraft operations at the Sonoma County Airport do not appreciably affect the ambient noise environment within the immediate project vicinity due to the distance between the airport and project site as well as the orientation of the airport runways.

Long-Term Ambient Noise Survey

To quantify existing ambient noise environment within the Project area, BAC conducted long-term (continuous) ambient noise level measurements at four locations over the 5-day period between Friday, April 29 and Tuesday, May 3, 2022. The noise measurement site locations are shown on Figure 1. Photographs of the noise survey locations are provided in Appendix B.

Larson Davis Laboratories (LDL) precision integrating sound level meters were used to complete the noise level measurements. The meters were calibrated before and after use with an LDL Model CA200 acoustical calibrator to ensure the accuracy of the measurements. The equipment used meets all specifications of the American National Standards Institute requirements for Type 1 sound level meters (ANSI S1.4). There were no atypical weather conditions present during the noise survey period which would have adversely affected the accuracy of the survey results.

The long-term noise level measurement survey results are summarized in Table 5. The detailed results of the long-term ambient noise survey are contained in Appendix C in tabular format and Appendix D in graphical format.

Legend

- # Residential Noise-Sensitive Receivers
- # Non-Residential Noise-Sensitive Receivers

N

Scale (Feet)

0 200 400

Shiloh Resort & Casino

Sonoma County, California

Noise-Sensitive Receivers

Figure 6

BOLLARD Acoustical Consultants

Table 5
Summary of Long-Term Ambient Noise Level Measurement Results[1]
Friday, April 29 - Tuesday, May 3, 2022

			Average Measured Hourly Noise Levels [dBA]			
			Daytime[3]		Nighttime[4]	
Site[2]	Date	DNL [dBA]	L_{50}	L_{max}	L_{50}	L_{max}
1	Friday, April 29	53	44	65	40	56
	Saturday, April 30	52	46	63	41	53
	Sunday, May 1	55	44	63	42	57
	Monday, May 2	52	47	64	41	54
	Tuesday, May 3	51	43	62	38	50
	Average	**53**	**45**	**64**	**40**	**54**
2	Friday, April 29	63	50	78	39	72
	Saturday, April 30	61	49	79	39	72
	Sunday, May 1	59	46	78	38	71
	Monday, May 2	63	50	79	41	67
	Tuesday, May 3	62	48	77	38	66
	Average	**62**	**49**	**78**	**39**	**70**
3	Friday, April 29	66	52	80	41	75
	Saturday, April 30	64	52	80	43	76
	Sunday, May 1	63	49	80	40	76
	Monday, May 2	66	54	81	43	72
	Tuesday, May 3	65	52	78	40	71
	Average	**65**	**52**	**80**	**41**	**74**
4	Friday, April 29	65	61	78	45	73
	Saturday, April 30	64	60	80	45	71
	Sunday, May 1	63	57	77	42	73
	Monday, May 2	65	60	78	45	73
	Tuesday, May 3	65	60	81	42	71
	Average	**64**	**60**	**79**	**44**	**72**

Notes
1. Detailed summaries of the noise monitoring results are provided graphically in Appendix C.
2. Noise measurement locations are shown on Figure 1
3. Daytime hours: 7:00 AM to 10:00 PM
4. Nighttime hours: 10:00 PM to 7:00 AM

Source: Bollard Acoustical Consultants, Inc. (2022)

The Table 5 data indicate that measured day-night average noise levels (DNL) did not vary appreciably from day to day at each site, but did vary by location within the Project area as expected. For example, Site 1 measured day-night average noise levels were the lowest due to the greater distance of the monitoring site to local roadways. Comparison of the ambient survey results to the Sonoma County and Town of Windsor noise standards indicates that the noise standards were exceeded at monitoring Sites 2, 3 & 4.

Existing Traffic Noise Levels Along the Project-Area Roadway Network

The existing traffic noise environment on the project site is defined primarily by traffic on Shiloh Road and Old Redwood Highway. To predict traffic noise levels along existing roadways, a combination of noise measurement and noise modelling is commonly used. Because future traffic noise levels must be modelled to predict the increases in off-site traffic noise levels which result from a project, the modelling of existing levels also allows a more accurate comparison to project levels.

The FHWA Traffic Noise Model (FHWA-RD-77-108) was used to quantify existing traffic noise levels at the existing sensitive land uses nearest to the project area roadway network. The Model was also used to quantify the distances to the 60, 65 and 70 dB DNL traffic noise contours for these roadways. The FHWA Model predicts hourly L_{eq} values for free-flowing traffic conditions. Estimates of the hourly distribution of traffic for a typical 24-hour period were used to develop DNL values from L_{eq} values.

Traffic data in the form of peak hour intersection movements were obtained from the project transportation impact study (TJKM, 2022). Peak hour turning movement volumes were converted to average daily segment volumes (ADT) by averaging am and pm peak hour volumes and multiplying by a factor of 5. The existing traffic noise levels at the distances representing the nearest sensitive land uses to the project area roadways and distances from the centerlines of selected roadways to the existing 60 dB, 65 dB and 70 dB DNL contours are summarized in Table 6. Appendix E contains the FHWA Model inputs for existing conditions.

In most cases, the actual distances to noise level contours may vary from the distances predicted by the FHWA Model. Factors such as roadway elevation, curvature, grade, and shielding by local topography or structures, or elevated receivers may affect actual sound propagation.

Table 6
Existing Traffic Noise Levels at Nearest Receptors and Distances to DNL Contours

#	Roadway	From	To	DNL at Nearest Sensitive Receptor [dB]	Distance to Contour [ft]		
					70 dBA DNL	65 dBA DNL	60 dBA DNL
1	Shiloh Rd	Conde Ln	Caletti Ave	56	48	104	224
2	Shiloh Rd	Caletti Ave	US-101 SB Ramps	66	55	118	254
3	Shiloh Rd	US-101 SB Ramps	US-101 NB Ramps	66	52	113	242
4	Shiloh Rd	US-101 NB Ramps	Hembree Ln	66	54	117	252
5	Shiloh Rd	Hembree Ln	Old Redwood Hwy	68	36	78	169
6	Shiloh Rd	Old Redwood Hwy	Gridley Dr	62	14	30	64
7	Shiloh Rd	Gridley Dr	Project Entrance East	61	13	29	62
8	Shiloh Rd	Project Entrance East	East of Project Entrance	61	12	27	58
9	Old Redwood Hwy	North of Shiloh Rd	Shiloh Rd	69	43	93	200
10	Old Redwood Hwy	Shiloh Rd	Project Entrance	66	32	69	149
11	Old Redwood Hwy	Project Entrance	South of Project Entrance	65	31	67	143

Source: FHWA-RD-77-108 with inputs from project traffic impact study. Appendix E contains FHWA model inputs.

Existing Ambient Vibration Environment

To generally quantify existing vibration levels at representative locations within the Project area, BAC conducted short-term (5-minute) vibration measurements at the same four (4) locations used for long-term ambient noise monitoring. The vibration measurement locations are shown on Figure 1.

A Larson-Davis Laboratories Model LxT precision integrating sound level meter equipped with a vibration transducer was used to complete the measurements. The system was calibrated in the field prior to use to ensure the accuracy of the measurements. The ambient vibration monitoring results are summarized in Table 7.

Table 7
Summary of Ambient Vibration Monitoring Results – May 4, 2022

Site[1]	Time	Average Measured Vibration Level [VdB]
1	9:53 AM	46
2	10:13 AM	40
3	10:34 AM	33
4	10:50 AM	42

Notes
1. Vibration measurement sites are shown on Figure 1.

Source: Bollard Acoustical Consultants, Inc. (2022)

The Table 7 data indicate that measured average vibration levels at the project area were below the 65 VdB threshold of perception, which is consistent with BAC staff observations.

Environmental Consequences

This section identifies the direct effects to noise that would result from the development of each alternative. Effects are measured against the environmental baseline and applicable noise criteria presented in the Affected Environment section.

Impact Assessment Criteria

The assessment of project effects is based on Federal Noise Abatement Criteria (NAC) standards used by the Federal Highway Administration (FHWA), on FTA thresholds for perceptible vibration, and on the noise standards of Sonoma County and the Town of Windsor. Specifically, adverse noise and vibration effects are identified at existing sensitive receptor locations if the following were to occur as a result of the project:

- Project construction noise levels exceed the Table 1 criteria (FHWA construction noise thresholds).
- Project construction vibration levels exceed 65 VdB (FTA threshold of perception).
- Project-generated traffic would cause traffic noise levels to exceed the FHWA noise abatement criteria (e.g., 67 dBA for exterior areas of residential uses) where the criteria is not currently being exceeded (see Table 2 for FHWA noise abatement criteria).
- Project-related traffic noise level increases would exceed 5 dB at residences located within the Town of Windsor (Windsor General Plan Policy PHS-8.1).
- Project-related traffic noise level increases would exceed 3 dB at residences located within Sonoma County (threshold commonly applied in Sonoma County).
- On-site noise sources associated with ongoing project operations exceed the Table 3 standards at residences within Sonoma County (Sonoma County General Plan Noise Element Table NE-2).
- On-site noise sources associated with ongoing project operations exceed the Table 4 standards at residences within the Town of Windsor (Town of Windsor 2040 General Plan Table PHS-4).

Assessment Methodology

Off-Site Traffic Noise and Project Traffic Noise Increases

The FHWA Highway Traffic Noise Prediction Model (FHWA-RD-77-108) was used to predict existing and future traffic noise levels, both with and without the project, at the nearest existing sensitive receptors located along the local roadway network which would be utilized by project-generated traffic. The FHWA Model inputs for each scenario are provided in Appendix E.

Project Construction Noise & Vibration

Project construction noise was evaluated using the Federal Highway Administration Roadway Construction Noise Model (RCNM). The types of heavy equipment to be utilized during project construction along with the distances from that equipment to the nearby residences were used as inputs to the RCNM to predict construction noise generation at existing sensitive receptors.

To evaluate vibration generation during project construction the data and methodology contained within the 2018 Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual were used.

On-Site Operational Noise

To predict noise generated by on-site operations (on-site circulation, parking lot operations, truck deliveries, and pool area activities), at the nearest sensitive receptor locations, a combination of BAC file data and published acoustical reference data were utilized with the SoundPlan noise-prediction and propagation model.

Alternative A – Proposed Project

Construction Noise

During the construction of Alternative A, noise from construction activities would add to the noise environment in the immediate vicinity of the Project Site. Activities involved in typical construction would generate maximum noise levels, as indicated in Table 8, ranging from 76 to 85 dBA Lmax at a distance of 50 feet. Not all of the construction activities identified in Table 8 would be required of this project. Based on the Table 8 data, the worst-case on-site project construction equipment maximum noise levels at the nearest existing noise-sensitive uses, located approximately 200 feet or more away, are expected to range from approximately 64 to 73 dBA Lmax.

As shown in Table 5, median baseline noise levels (L50) in the immediate Project Site vicinity ranged from 45 to 50 dBA during daytime hours. According to FHWA construction noise thresholds (see Table 1), construction noise impacts would be significant where daytime construction activities would generate noise levels exceeding 78 dBA or median baseline noise levels +5 dBA, whichever is louder. Therefore, a construction noise threshold of 78 dBA was used to evaluate construction noise impacts for this project. Because daytime construction activities are predicted to generate maximum noise levels ranging from approximately 64 to 73 dBA Lmax, which are below the 78 dBA threshold, ***a less-than-significant impact would occur during daytime hours***.

The proposed construction Best Management Practices to be utilized for this project include limiting construction activities involving noise generating equipment to daytime hours between 7:00 a.m. and 6:00 p.m., with the exception of federal holidays where no work will occur, and with no construction work occurring between the hours of 10:00 p.m. to 7:00 a.m. With the implementation of this BMP, construction noise generated by Alternative A would not exceed FHWA construction noise thresholds during the evening (6:00 p.m. to 10:00 p.m.) or nighttime (10:00 p.m. to 7:00 a.m.); ***therefore, a less-than-significant impact would occur***. Further, the limitation of construction activities to daytime hours is generally consistent with the Town of Windsor municipal code that authorizes construction activities between the hours of 7:00 a.m. and 7:00 p.m. Monday through Friday and between the hours of 8:00 a.m. and 7:00 p.m. on Saturday.

Table 8
Construction Equipment Reference Noise Levels

Equipment Description	Maximum Noise Level at 50 feet [dBA]
Air compressor	80
Backhoe	80
Compactor	82
Concrete mixer	85
Concrete pump	82
Concrete vibrator	76
Crane, mobile	83
Dozer	85
Generator	82
Grader	85
Impact wrench	85
Loader	80
Paver	85
Pneumatic tool	85
Pump	77
Saw	76
Scarifier	83
Scraper	85
Shovel	82
Truck	84

Source: Federal Transit Administration Noise and Vibration Impact Assessment Manual, Table 7-1 (2018)

Construction Vibration

During project construction, heavy equipment would be used for grading, excavation, paving, and building construction, which would generate localized vibration in the immediate vicinity of the construction. The nearest identified existing sensitive receptors are located approximately 200+ feet from where construction activities would occur within the Project site.

Table 9 includes the range of vibration levels for equipment commonly used in general construction projects at a reference distance of 25 feet from the equipment. The Table 9 data also include predicted equipment vibration levels at a distance of 200 feet from proposed construction activities.

Table 9
Vibration Source Levels for Construction Equipment

Equipment	Maximum Vibration Level at 25 feet [VdB (rms)]	Predicted Maximum Vibration Level at 200 feet [VdB (rms)]
Vibratory Roller	94	67
Hoe Ram	87	60
Large bulldozer	87	60
Loaded trucks	86	61
Jackhammer	79	52
Small bulldozer	58	31

Source: 2018 FTA Transit Noise and Vibration Impact Assessment Manual and BAC calculations

As shown in Table 9, with the exception of vibratory roller operations, vibration levels generated from on-site construction activities are predicted to be below the 65 VdB threshold of perception at the nearest existing sensitive receptors located approximately 200+ feet from project construction activities. As a result, with the exception of vibratory roller operations, project-generated construction vibration is predicted to result in ***less than significant adverse effects*** at nearby sensitive receptors.

To mitigate potentially significant adverse effects associated with the use of vibratory roller usage at the project site, the use of vibratory rollers shall be limited to locations beyond 250 feet from an existing sensitive receptor and non-vibratory rollers shall be utilized at locations within 250 feet from an existing sensitive receptor.

Off-Site Traffic Noise

With development of the project, traffic volumes on the local roadway network will increase. Those increases in Average Daily Traffic (ADT) volumes will result in a corresponding increase in traffic noise levels at existing sensitive uses located along those roadways. Two conditions were evaluated: Opening Year 2028 (Baseline) and Cumulative Year 2040.

The FHWA Traffic Noise Model (FHWA-RD-77-108) was used to quantify increases in baseline traffic noise levels at the existing sensitive land uses nearest to the project area roadway network. The FHWA Model predicts hourly Leq values for free-flowing traffic conditions. Estimates of the hourly distribution of traffic for a typical 24-hour period were used to develop DNL values from L_{eq} values. Tables 10 & 11 show the predicted increases in traffic noise levels due to the project relative to opening year and cumulative (2040) conditions without the project.

The data in Table 10 indicate that project-generated traffic noise level increases would not result in significant adverse noise effects relative to existing / baseline conditions. In addition, the project would not cause traffic noise levels to exceed the 67 dBA threshold applicable to residential uses at locations where existing residences are present and where the 67 dBA threshold is not already being exceeded under baseline conditions. Traffic generated noise on Shiloh Road between Hembree Lane and Old Redwood Highway and Old Redwood Highway north of Shiloh road would exceed the 67 dBA FHWA noise abatement criteria threshold for residential uses where residential uses are present; however, the baseline noise levels are predicted to already be above 67 dBA prior to the operation of Alternative A and the increase due to

Alternative A would be less than 3 dB, which is the level of noise increase required for a perceptible difference in noise levels. As a result, off-site traffic noise level increases resulting from the project are ***not predicted to result in significant adverse effects*** relative to baseline conditions without the project.

The data in Table 11 indicate that the cumulative plus project traffic noise environment would exceed the existing / baseline traffic noise environment by 1.4 to 5.4 dBA DNL at existing sensitive receptors located adjacent to the project-area roadways. The cumulative plus project traffic noise level increases would exceed the applicable significance thresholds along three (3) of the roadway segments containing sensitive land uses. In addition, along two of the roadway segments evaluated in Table 11 (segments 6 and 10), cumulative plus project traffic conditions exceed the 67 dBA threshold applicable to residential uses where that threshold is not currently being exceeded under existing / baseline conditions. As a result, increases in in existing / baseline traffic noise levels resulting from cumulative plus project traffic is predicted to result in ***significant adverse effects*** at the residences located along segments of Shiloh Road and Old Redwood Highway.

Mitigation for Significant Adverse Noise Effects Resulting from Cumulative Plus Project Off-Site Traffic

A. **Noise-Reducing Pavement:** Noise-reducing pavement types, such as rubberized asphalt, have been shown to provide an appreciable noise level reduction relative to other pavement types (approximately 3-4 dB over conventional asphalt overlays). Because a 3-4 dB reduction in traffic noise levels would be sufficient to reduce cumulative plus project traffic noise impacts to a less than significant level, this mitigation alternative would be effective. Therefore, the project applicant shall be required to pay a fair share towards repaving the impacted roadway segments with noise-reducing pavement during the widening of roadway segments which would be required under cumulative conditions.

Table 10
Predicted Traffic Noise Levels & Project Related Increases at Existing Sensitive Receptors – Baseline vs. Baseline + Project Conditions
Shiloh Resort and Casino Project – Alternative A: Proposed Project

#	Roadway	From	To	Predicted DNL [dBA]			Significance Threshold, dBA	Threshold Exceeded?	Sensitive Receptors Present?[1]	Significant Impact Identified?[2]
				Baseline	Baseline + Project	Increase				
1	Shiloh Rd	Conde Ln	Caletti Ave	55.9	56.0	0.1	5	No	Yes	No
2	Shiloh Rd	Caletti Ave	US-101 SB Ramps	66.1	66.2	0.1	5	No	No	No
3	Shiloh Rd	US-101 SB Ramps	US-101 NB Ramps	65.8	66.7	0.9	5	No	No	No
4	Shiloh Rd	US-101 NB Ramps	Hembree Ln	66.0	67.3	1.3	5	No	No	No
5	Shiloh Rd	Hembree Ln	Old Redwood Hwy	67.9	70.1	2.2	3	No	Yes	No
6	Shiloh Rd	Old Redwood Hwy	Gridley Dr	61.6	66.4	4.8	5	No	Yes	No
7	Shiloh Rd	Gridley Dr	Project Entrance East	61.4	65.9	4.5	5	No	Yes	No
8	Shiloh Rd	Project Entrance East	East of Project Entrance	60.9	62.1	1.2	5	No	Yes	No
9	Old Redwood Hwy	North of Shiloh Rd	Shiloh Rd	69.0	69.4	0.4	5	No	Yes	No
10	Old Redwood Hwy	Shiloh Rd	Project Entrance	65.9	66.6	0.7	3	No	Yes	No
11	Old Redwood Hwy	Project Entrance	South of Project Entrance	65.2	65.6	0.4	3	No	Yes	No

Notes

1. Impact assessment thresholds are summarized on page 26.
2. Sensitive receptors were considered to be residences of all densities, schools, & transient lodging facilities.
3. A significant impact is identified only along segments where the project-related traffic noise level increase would exceed the significance threshold AND where sensitive receptors are present along the roadway segment.

Source: FHWA-RD-77-108 with inputs from project traffic impact study. Appendix E contains FHWA Model inputs for existing plus project conditions.

Table 11
Predicted Traffic Noise Level Increases at Existing Sensitive Receptors – Baseline vs. Cumulative + Project Conditions
Shiloh Resort and Casino Project – Alternative A: Proposed Project

#	Roadway	From	To	Predicted DNL [dBA]			Significance Threshold[1]	Threshold Exceeded?	Sensitive Receptors Present?[2]	Significant Impact Identified?[3]
				Baseline	Cumulative + Project	Increase				
1	Shiloh Rd	Conde Ln	Caletti Ave	55.9	57.7	1.8	5.0	No	Yes	No
2	Shiloh Rd	Caletti Ave	US-101 SB Ramps	66.1	67.5	1.4	5.0	No	No	No
3	Shiloh Rd	US-101 SB Ramps	US-101 NB Ramps	65.8	68.3	2.5	5.0	No	No	No
4	Shiloh Rd	US-101 NB Ramps	Hembree Ln	66.0	68.7	2.7	5.0	No	No	No
5	Shiloh Rd	Hembree Ln	Old Redwood Hwy	67.9	72.1	4.2	3.0	Yes	Yes	Yes
6	Shiloh Rd	Old Redwood Hwy	Gridley Dr	61.6	67.0	5.4	5.0	Yes	Yes	Yes
7	Shiloh Rd	Gridley Dr	Project Entrance East	61.4	66.3	4.9	5.0	No	Yes	No
8	Shiloh Rd	Project Entrance East	East of Project Entrance	60.9	63.0	2.1	5.0	No	Yes	No
9	Old Redwood Hwy	North of Shiloh Rd	Shiloh Rd	69.0	71.5	2.5	5.0	No	Yes	No
10	Old Redwood Hwy	Shiloh Rd	Project Entrance	65.9	69.7	3.8	3.0	Yes	Yes	Yes
11	Old Redwood Hwy	Project Entrance	South of Project Entrance	65.2	66.6	1.4	3.0	No	Yes	No

Notes

1. Impact assessment thresholds are summarized on on page 26.
2. Sensitive receptors were considered to be residences of all densities, schools, & transient lodging facilities.
3. A significant impact is identified only along segments where the project-related traffic noise level increase would exceed the significance threshold AND where sensitive receptors are present along the roadway segment.

Source: FHWA-RD-77-108 with inputs from project traffic impact study. Appendix E contains FHWA Model inputs for cumulative conditions.

On-Site Operational Noise

On-Site noise sources associated with Alternative A include on-site vehicle circulation, parking lot operations, truck deliveries, and swimming pool area activities. Noise generating equipment associated with water and wastewater treatment facilities will be shielded, enclosed, or located within buildings to the maximum extent feasible and thus would not result in a significant source of noise at nearby sensitive receptors. Each of these sources were evaluated using the SoundPlan Version 8.2 noise prediction model. Inputs to the SoundPlan model consisted of local topographic data, existing structures, proposed on-site structures, atmospheric data, and operational data obtained from the project description, traffic impact analysis, and BAC reference file data for parking lot, swimming pool, and truck delivery noise. The SoundPlan noise inputs are provided in Appendix F. The SoundPlan modelling results for peak hour conditions at each sensitive receptor identified on Figure 6 are provided in Table 12. Figure 7 shows the average/median noise contours for on-site noise sources associated with Alternative A.

The predicted *maximum* noise levels identified in Table 12 for on-site noise sources are at or below the 65 dBA Lmax daytime and 60 dB Lmax nighttime noise level standards applicable at the nearest Sonoma County residences (receivers 5-20 on Figure 6). Also, the predicted *maximum* noise levels identified in Table 12 for on-site noise sources are below the 55 dBA Lmax daytime noise level standard applicable at the nearest Town of Windsor residences (receivers 1-4 on Figure 6). Because project nighttime noise generation is predicted to be lower than daytime noise generation, noise generated by on-site activities is also predicted to be satisfactory relative to the Town of Windsor nighttime 50 dBA Lmax nighttime noise level standard at the nearest residences. In addition, comparison of the predicted maximum noise levels generated by the project against the ambient noise survey results indicates that no substantial increase in single-event, *maximum* ambient noise levels would result from the project. As a result, ***no significant adverse noise effects are identified*** for project-generated, single-event maximum noise levels at the nearest sensitive receptors to the project site from on-site activities.

The predicted *average/median* (Leq/L50) noise levels identified in Table 12 for on-site noise sources are below the 50 and 55 dBA daytime average/median noise standards of Sonoma County and the Town of Windsor, respectively, at each of the nearest receptors analyzed in this evaluation. Because peak nighttime noise generation is predicted to be considerably lower than peak daytime project noise generation, on-site activities at the project site are not expected to cause exceedance of the applicable average/median nighttime noise level standards at the nearest sensitive receptors. As a result, ***no significant adverse noise effects are identified*** relative to average/median noise levels generated by on-site activities.

Table 12
Predicted Noise Levels from On-Site Activities
Shiloh Resort and Casino Project – Alternative A: Proposed Project

	Lmax, dBA					Leq/L50, dBA				
Receiver	**Parking**	**Pool**	**Trucks**	**Traffic**	**Total**	**Parking**	**Pool**	**Trucks**	**Traffic**	**Total**
1	40	26	31	38	**40**	27	24	2	33	**34**
2	44	21	33	46	**46**	31	20	4	41	**41**
3	51	29	35	49	**51**	36	25	6	44	**44**
4	43	34	33	42	**43**	30	32	5	37	**39**
5	44	32	30	37	**44**	32	30	3	32	**36**
6	50	29	32	49	**50**	41	27	4	44	**46**
7	46	23	32	42	**46**	37	21	2	37	**40**
8	46	26	46	46	**46**	39	22	12	41	**43**
9	31	17	26	56	**56**	21	15	0	51	**51**
10	33	26	38	36	**38**	28	19	10	31	**33**
11	45	22	37	49	**49**	35	17	3	44	**44**
12	50	29	57	53	**57**	36	24	25	48	**48**
13	43	27	55	49	**55**	31	23	26	44	**44**
14	38	31	59	47	**59**	28	28	31	42	**42**
15	40	28	60	50	**60**	30	25	31	45	**45**
16	36	28	59	50	**59**	27	25	26	45	**45**
17	48	28	56	51	**56**	30	25	17	46	**46**
18	48	31	38	51	**51**	33	25	8	46	**46**
19	43	35	33	42	**43**	29	26	3	37	**38**
20	41	31	32	38	**41**	27	25	3	33	**35**

Source: Bollard Acoustical Consultants, Inc. (BAC) 2022

Figure 7

Shiloh Resort & Casino
Alternative A
Noise Contours (L_{eq}/L_{50}) for from combined noise sources: pool area, on-site traffic, passenger parking, and truck loading docks.

Legend

L_{eq}/L_{50} [dBA]

>=		60
55	-	60
50	-	55
45	-	50

Noise-Sensitive Receiver

N

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Acoustical Consultants

Alternative B – Reduced Intensity Project

Construction Noise

During the construction phases of projects, noise from construction activities would add to the noise environment in the immediate project vicinity. Activities involved in typical construction would generate maximum noise levels, as indicated in Table 13, ranging from 76 to 85 dBA L_{max} at a distance of 50 feet. Not all of these construction activities would be required of this project.

Table 13
Construction Equipment Reference Noise Levels

Equipment Description	Maximum Noise Level at 50 feet [dBA]
Air compressor	80
Backhoe	80
Compactor	82
Concrete mixer	85
Concrete pump	82
Concrete vibrator	76
Crane, mobile	83
Dozer	85
Generator	82
Grader	85
Impact wrench	85
Loader	80
Paver	85
Pneumatic tool	85
Pump	77
Saw	76
Scarifier	83
Scraper	85
Shovel	82
Truck	84

Source: Federal Transit Administration Noise and Vibration Impact Assessment Manual, Table 7-1 (2018)

Based on the equipment noise levels in Table 13, worst-case on-site project construction equipment maximum noise levels at the nearest existing noise-sensitive uses located approximately 200+ feet away are expected to range from approximately 64 to 73 dBA Lmax.

According to Table 1, construction noise impacts would be significant where daytime construction activities would generate noise levels exceeding 78 dBA or baseline maximum noise levels+5 dBA, whichever is louder. As shown in Table 5, baseline maximum noise levels in the immediate Project vicinity ranged from 64 to 80 dBA during daytime hours. For a conservative assessment of potential construction noise impacts during daytime hours a construction noise threshold of 78 dBA Lmax is used as the significance criteria. Because daytime construction activities are predicted to generate maximum noise levels ranging from

approximately 64 to 73 dBA Lmax, which are below the 78 dBA Lmax threshold, project construction activities are ***predicted to result in less than significant adverse effects*** during daytime hours.

According to Table 1, construction noise impacts would be significant where evening construction activities would generate noise levels exceeding baseline maximum noise levels + 5 dBA. As shown in Appendix C, baseline maximum noise levels in the immediate Project vicinity ranged from 72 to 92 dBA during the evening hours of 7 pm – 10 pm at monitoring Sites 2-4. As a result, the evening construction noise threshold for receptors located near Shiloh Road and Old Redwood Highway would be set at 77 dBA Lmax. Because Project construction activities are predicted to generate maximum noise levels ranging from approximately 64 to 73 dBA Lmax, which is below the 78 dBA Lmax threshold, project construction noise impacts are identified as being ***less than significant*** during evening hours at receptors located near Shiloh Road and Old Redwood Highway. However, at receptors 11-13, where ambient conditions are lower, evening construction activities could result in exceedance of the Table 1 standards. As a result, project construction activities are ***predicted to result in significant adverse effects*** during evening hours at receptors located immediately south of the Project site boundary (Receptors 11, 12 & 13 shown on Figure 6).

According to Table 1, construction noise impacts would be significant where nighttime construction activities would generate noise levels exceeding baseline maximum noise levels + 5 dBA where baseline conditions are less than 70 dBA Lmax and baseline + 3 dBA where baseline ambient conditions exceed 70 dBA. As shown in Table 5, baseline maximum noise levels in the immediate Project vicinity ranged from 54 to 74 dBA during the nighttime hours of 10 pm to 7 am. As a result, the nighttime construction noise threshold for receptors located near Shiloh Road and Old Redwood Highway would be set at 73 dBA Lmax. Because Project construction activities are predicted to generate maximum noise levels ranging from approximately 64 to 73 dBA Lmax, which is below the 73 dBA Lmax threshold, project construction noise impacts are identified as being ***less than significant*** during nighttime hours at receptors located near Shiloh Road and Old Redwood Highway. However, at receptors 11-13, where nighttime ambient conditions are considerably lower, nighttime construction activities could result in exceedance of the Table 1 standards. As a result, project construction activities are ***predicted to result in significant adverse effects*** during nighttime hours at receptors located immediately south of the Project site boundary (Receptors 11, 12 & 13 shown on Figure 6).

To mitigate significant adverse effects during project construction, the construction contractor shall implement Best Management Practices (BMP's), including limiting construction to daytime hours to the maximum extent feasible to minimize potential for sleep disturbance, and locating noise-generating construction equipment as far from sensitive receptors as possible. Where extensive evening or nighttime construction operations are necessary (i.e. concrete pours during warm weather conditions), the construction manager shall provide notification to nearby sensitive receptors to allow closure of windows during those periods for improved acoustical isolation.

Construction Vibration

During project construction, heavy equipment would be used for grading, excavation, paving, and building construction, which would generate localized vibration in the immediate vicinity of the construction. The nearest identified existing sensitive receptors are located approximately 200+ feet from where construction activities would occur within the Project site.

Table 14 includes the range of vibration levels for equipment commonly used in general construction projects at a reference distance of 25 feet from the equipment. The Table 14 data also include predicted equipment vibration levels at a distance of 200 feet from proposed construction activities.

Table 14
Vibration Source Levels for Construction Equipment

Equipment	Maximum Vibration Level at 25 feet [VdB (rms)]	Predicted Maximum Vibration Level at 200 feet [VdB (rms)]
Vibratory Roller	94	67
Hoe Ram	87	60
Large bulldozer	87	60
Loaded trucks	86	61
Jackhammer	79	52
Small bulldozer	58	31

Source: 2018 FTA Transit Noise and Vibration Impact Assessment Manual and BAC calculations

As shown in Table 14, with the exception of vibratory roller operations, vibration levels generated from on-site construction activities are predicted to be below the 65 VdB threshold of perception at the nearest existing sensitive receptors located approximately 200+ feet from project construction activities. As a result, with the exception of vibratory roller operations, project-generated construction vibration is predicted to result in ***less than significant adverse effects*** at nearby sensitive receptors.

To mitigate potentially significant adverse effects associated with the use of vibratory roller usage at the project site, the use of vibratory rollers shall be limited to locations beyond 250 feet from an existing sensitive receptor and non-vibratory rollers shall be utilized at locations within 250 feet from an existing sensitive receptor.

Off-Site Traffic Noise

With development of the project, traffic volumes on the local roadway network will increase. Those increases in Average Daily Traffic (ADT) volumes will result in a corresponding increase in traffic noise levels at existing sensitive uses located along those roadways. Two conditions were evaluated for Alternative B: Opening Year 2028 (Baseline) and Cumulative Year 2040.

The FHWA Traffic Noise Model (FHWA-RD-77-108) was used to quantify increases in baseline traffic noise levels at the existing sensitive land uses nearest to the project area roadway network. The FHWA Model predicts hourly Leq values for free-flowing traffic conditions. Estimates of the hourly distribution of traffic for a typical 24-hour period were used to develop DNL values from L_{eq} values. Tables 15 & 16 show the predicted increases in traffic noise levels due to the project relative to opening year and cumulative (2040) conditions without the project.

Table 15
Predicted Traffic Noise Level Increases at Existing Sensitive Receptors – Baseline vs. Baseline + Project Conditions
Shiloh Resort and Casino Project – Alternative B: Reduced Intensity Project

#	Roadway	From	To	Predicted DNL [dBA]			Significance Threshold[1]	Threshold Exceeded?	Sensitive Receptors Present?[2]	Significant Impact Identified?[3]
				Baseline	Baseline + Project	Increase				
1	Shiloh Rd	Conde Ln	Caletti Ave	55.9	55.7	-0.2[5]	5	No	Yes	No
2	Shiloh Rd	Caletti Ave	US-101 SB Ramps	66.1	65.8	-0.3[5]	5	No	No	No
3	Shiloh Rd	US-101 SB Ramps	US-101 NB Ramps	65.8	66.3	0.5	5	No	No	No
4	Shiloh Rd	US-101 NB Ramps	Hembree Ln	66.0	66.9	0.9	5	No	No	No
5	Shiloh Rd	Hembree Ln	Old Redwood Hwy	67.9	69.5	1.6	3	No	Yes	No
6	Shiloh Rd	Old Redwood Hwy	Gridley Dr	61.6	65.7	4.1	5	No	Yes	No
7	Shiloh Rd	Gridley Dr	Project Entrance East	61.4	65.2	3.8	5	No	Yes	No
8	Shiloh Rd	Project Entrance East	East of Project Entrance	60.9	61.7	0.8	5	No	Yes	No
9	Old Redwood Hwy	North of Shiloh Rd	Shiloh Rd	69.0	69.0	0.0	5	No	Yes	No
10	Old Redwood Hwy	Shiloh Rd	Project Entrance	65.9	66.1	0.2	3	No	Yes	No
11	Old Redwood Hwy	Project Entrance	South of Project Entrance	65.2	65.2	0.0	3	No	Yes	No

Notes

1. Impact assessment thresholds are summarized on on page 26.
2. Significance threshold derived from Table 4.
3. Sensitive receptors were considered to be residences of all densities, schools, & transient lodging facilities.
4. A significant impact is identified only along segments where the project-related traffic noise level increase would exceed the significance threshold AND where sensitive receptors are present along the roadway segment.
5. Under Alternative B changes to traffic distribution patterns resulted in reduced traffic along portions of Shiloh Road and thus reduced traffic noise.

Source: FHWA-RD-77-108 with inputs from project traffic impact study. Appendix E contains FHWA Model inputs for existing plus project conditions.

Table 16
Predicted Traffic Noise Level Increases at Existing Sensitive Receptors – Baseline vs. Cumulative + Project Conditions
Shiloh Resort and Casino Project – Alternative B: Reduced Intensity Project

#	Roadway	From	To	Predicted DNL [dBA]			Significance Threshold[1]	Threshold Exceeded?	Sensitive Receptors Present?[2]	Significant Impact Identified?[3]
				Baseline	Cumulative + Project	Increase				
1	Shiloh Rd	Conde Ln	Caletti Ave	55.9	57.7	1.8	5.0	No	Yes	No
2	Shiloh Rd	Caletti Ave	US-101 SB Ramps	66.1	67.5	1.4	5.0	No	No	No
3	Shiloh Rd	US-101 SB Ramps	US-101 NB Ramps	65.8	68.2	2.4	5.0	No	No	No
4	Shiloh Rd	US-101 NB Ramps	Hembree Ln	66.0	68.5	2.5	5.0	No	No	No
5	Shiloh Rd	Hembree Ln	Old Redwood Hwy	67.9	71.8	3.9	3.0	Yes	Yes	Yes
6	Shiloh Rd	Old Redwood Hwy	Gridley Dr	61.6	66.4	4.8	5.0	No	Yes	No
7	Shiloh Rd	Gridley Dr	Project Entrance East	61.4	65.8	4.4	5.0	No	Yes	No
8	Shiloh Rd	Project Entrance East	East of Project Ent.	60.9	62.8	1.9	5.0	No	Yes	No
9	Old Redwood Hwy	North of Shiloh Rd	Shiloh Rd	69.0	71.5	2.5	5.0	No	Yes	No
10	Old Redwood Hwy	Shiloh Rd	Project Entrance	65.9	69.6	3.7	3.0	Yes	Yes	Yes
11	Old Redwood Hwy	Project Entrance	South of Project Ent.	65.2	66.5	1.3	3.0	No	Yes	No

Notes

1. Impact assessment thresholds are summarized on on page 26.
2. Sensitive receptors were considered to be residences of all densities, schools, & transient lodging facilities.
3. A significant impact is identified only along segments where the project-related traffic noise level increase would exceed the significance threshold AND where sensitive receptors are present along the roadway segment.

Source: FHWA-RD-77-108 with inputs from project traffic impact study. Appendix E contains FHWA Model inputs for cumulative conditions.

The data in Table 15 indicate that project-generated traffic noise level increases would not result in significant adverse noise effects relative to existing / baseline conditions. In addition, the project would not cause traffic noise levels to exceed the 67 dBA threshold applicable to residential uses at locations where existing residences are present. As a result, off-site traffic noise level increases resulting from the project are ***not predicted to result in significant adverse effects*** relative to baseline conditions without the project.

The data in Table 16 indicate that the cumulative plus project traffic noise environment would exceed the existing / baseline traffic noise environment by 1.3 to 4.8 dBA DNL at existing sensitive receptors located adjacent to the project-area roadways. The cumulative plus project traffic noise level increases would exceed the applicable significance thresholds along two (2) of the roadway segments containing sensitive land uses. In addition, along one of the roadway segments evaluated in Table 16 (segment 10), cumulative plus project traffic conditions would exceed the 67 dBA threshold applicable to residential uses where that threshold is not currently being exceeded under existing / baseline conditions. As a result, increases in in existing / baseline traffic noise levels resulting from cumulative plus project traffic is predicted to result in ***significant adverse effects*** at the residences located along segments of Shiloh Road and Old Redwood Highway.

Mitigation for Significant Adverse Noise Effects Resulting from Cumulative Plus Project Off-Site Traffic

A. **Noise-Reducing Pavement:** Noise-reducing pavement types, such as rubberized asphalt, have been shown to provide an appreciable noise level reduction relative to other pavement types (approximately 3-4 dB over conventional asphalt overlays). Because a 3-4 dB reduction in traffic noise levels would be sufficient to reduce cumulative plus project traffic noise impacts to a less than significant level, this mitigation alternative would be effective if feasible. Therefore, the project applicant shall be required to pay a fair share towards repaving the impacted roadway segments with noise-reducing pavement during the widening of roadway segments which would be required under cumulative conditions.

On-Site Operational Noise

On-Site noise sources associated with Alternative B include on-site vehicle circulation, parking lot operations, truck deliveries, and swimming pool area activities. Each of these sources were evaluated using the SoundPlan Version 8.2 noise prediction model. Inputs to the SoundPlan model consisted of local topographic data, existing structures, proposed on-site structures, atmospheric data, and operational data obtained from the project description, traffic impact analysis, and BAC reference file data for parking lot, swimming pool, and truck delivery noise. The SoundPlan noise inputs are provided in Appendix G. The SoundPlan modelling results for peak hour conditions at each sensitive receptor identified on Figure 6 are provided in Table 17. Figure 8 shows the average/median noise contours for on-site noise sources associated with Alternative B.

Table 17
Predicted Noise Levels from On-Site Activities
Shiloh Resort and Casino Project – Alternative B: Reduced Intensity Project

	Lmax, dBA					Leq/L50, dBA				
Receiver	**Parking**	**Pool**	**Trucks**	**Traffic**	**Total**	**Parking**	**Pool**	**Trucks**	**Traffic**	**Total**
1	39	32	45	38	**45**	27	28	8	33	**35**
2	44	23	41	46	**46**	31	22	6	41	**41**
3	51	35	37	49	**51**	35	31	6	44	**45**
4	40	38	35	42	**42**	26	37	6	37	**40**
5	25	37	32	37	**37**	19	35	4	32	**37**
6	42	34	34	49	**49**	35	32	4	44	**45**
7	37	23	32	42	**42**	31	21	1	37	**38**
8	38	31	46	46	**46**	34	28	11	41	**42**
9	28	18	26	56	**56**	19	16	0	51	**51**
10	30	31	38	36	**38**	25	25	8	31	**33**
11	44	21	43	46	**46**	34	15	12	41	**42**
12	44	31	57	51	**57**	35	27	23	46	**46**
13	42	27	55	49	**55**	32	23	24	44	**44**
14	39	31	59	47	**59**	30	28	30	42	**42**
15	41	30	61	49	**61**	32	26	30	44	**45**
16	43	29	60	50	**60**	32	26	29	45	**45**
17	47	29	59	50	**59**	34	26	28	45	**46**
18	47	31	54	51	**54**	34	26	23	46	**46**
19	43	36	47	42	**47**	29	28	17	37	**38**
20	41	35	46	38	**46**	27	27	15	33	**35**

Source: Bollard Acoustical Consultants, Inc. (BAC) 2022

Figure 8

Shiloh Resort & Casino
Alternative B
Noise Contours (L_{eq}/L_{50}) for from combined noise sources: pool area, on-site traffic, passenger parking, and truck loading docks.

Legend

L_{eq}/L_{50} [dBA]

>=		60
55	-	60
50	-	55
45	-	50

Noise-Sensitive Receiver

N

BOLLARD
Acoustical Consultants

The predicted *maximum* noise levels identified in Table 17 for on-site noise sources are below the 65 dBA Lmax daytime noise level standard applicable at the nearest Sonoma County residences (receivers 5-20 on Figure 6). Because project nighttime noise generation is predicted to be lower than daytime noise generation, noise generated by on-site activities is also predicted to be satisfactory relative to the County's 60 dBA Lmax nighttime noise standard and be well below baseline ambient noise levels at the Sonoma County residences.

The predicted *maximum* noise levels identified in Table 17 for on-site noise sources are below the 55 dBA Lmax daytime noise level standard applicable at the nearest Town of Windsor residences (receivers 1-4 on Figure 6). Because project nighttime noise generation is predicted to be lower than daytime noise generation, noise generated by on-site activities is also predicted to be satisfactory relative to the Town of Windsor nighttime 50 dBA Lmax nighttime noise level standard at the nearest residences. In addition, comparison of the predicted maximum noise levels generated by the project against the ambient noise survey results indicates that no substantial increase in single-event, *maximum* ambient noise levels would result from the project. As a result, ***no significant adverse noise effects are identified*** for project-generated, single-event maximum noise levels at the nearest sensitive receptors to the project site from on-site activities.

The predicted *average/median* (Leq/L50) noise levels identified in Table 17 for on-site noise sources are below the 50 and 55 dBA daytime average/median noise standards of Sonoma County and the Town of Windsor, respectively, at each of the nearest receptors analyzed in this evaluation. Because peak nighttime noise generation is predicted to be considerably lower than peak daytime project noise generation, on-site activities at the project site are not expected to cause exceedance of the applicable local average/median nighttime noise level standards at the nearest sensitive receptors. As a result, ***no significant adverse noise effects are identified*** relative to average/median noise levels generated by on-site activities.

Alternative C – Non-Gaming Project

Construction Noise

During the construction phases of projects, noise from construction activities would add to the noise environment in the immediate project vicinity. Activities involved in typical construction would generate maximum noise levels, as indicated in Table 18, ranging from 76 to 85 dBA L_{max} at a distance of 50 feet. Not all of these construction activities would be required of this project.

Table 18
Construction Equipment Reference Noise Levels

Equipment Description	Maximum Noise Level at 50 feet [dBA]
Air compressor	80
Backhoe	80
Compactor	82
Concrete mixer	85
Concrete pump	82
Concrete vibrator	76
Crane, mobile	83
Dozer	85
Generator	82
Grader	85
Impact wrench	85
Loader	80
Paver	85
Pneumatic tool	85
Pump	77
Saw	76
Scarifier	83
Scraper	85
Shovel	82
Truck	84

Source: Federal Transit Administration Noise and Vibration Impact Assessment Manual, Table 7-1 (2018)

Based on the equipment noise levels in Table 18, worst-case on-site project construction equipment maximum noise levels at the nearest existing noise-sensitive uses located approximately 200+ feet away are expected to range from approximately 64 to 73 dBA Lmax.

According to Table 1, construction noise impacts would be significant where daytime construction activities would generate noise levels exceeding 78 dBA or baseline maximum noise levels+5 dBA, whichever is louder. As shown in Table 5, baseline maximum noise levels in the immediate Project vicinity ranged from 64 to 80 dBA during daytime hours. For a conservative assessment of potential construction noise impacts during daytime hours a construction noise threshold of 78 dBA Lmax is used as the significance criteria. Because daytime construction activities are predicted to generate maximum noise levels ranging from

approximately 64 to 73 dBA Lmax, which are below the 78 dBA Lmax threshold, project construction activities are ***predicted to result in less than significant adverse effects*** during daytime hours.

According to Table 1, construction noise impacts would be significant where evening construction activities would generate noise levels exceeding baseline maximum noise levels + 5 dBA. As shown in Appendix C, baseline maximum noise levels in the immediate Project vicinity ranged from 72 to 92 dBA during the evening hours of 7 pm – 10 pm at monitoring Sites 2-4. As a result, the evening construction noise threshold for receptors located near Shiloh Road and Old Redwood Highway would be set at 77 dBA Lmax. Because Project construction activities are predicted to generate maximum noise levels ranging from approximately 64 to 73 dBA Lmax, which is below the 78 dBA Lmax threshold, project construction noise impacts are identified as being ***less than significant*** during evening hours at receptors located near Shiloh Road and Old Redwood Highway. However, at receptors 11-13, where ambient conditions are lower, evening construction activities could result in exceedance of the Table 1 standards. As a result, project construction activities are ***predicted to result in significant adverse effects*** during evening hours at receptors located immediately south of the Project site boundary (Receptors 11, 12 & 13 shown on Figure 6).

According to Table 1, construction noise impacts would be significant where nighttime construction activities would generate noise levels exceeding baseline maximum noise levels + 5 dBA where baseline conditions are less than 70 dBA Lmax and baseline + 3 dBA where baseline ambient conditions exceed 70 dBA. As shown in Table 5, baseline maximum noise levels in the immediate Project vicinity ranged from 54 to 74 dBA during the nighttime hours of 10 pm to 7 am. As a result, the nighttime construction noise threshold for receptors located near Shiloh Road and Old Redwood Highway would be set at 73 dBA Lmax. Because Project construction activities are predicted to generate maximum noise levels ranging from approximately 64 to 73 dBA Lmax, which is below the 73 dBA Lmax threshold, project construction noise impacts are identified as being ***less than significant*** during nighttime hours at receptors located near Shiloh Road and Old Redwood Highway. However, at receptors 11-13, where nighttime ambient conditions are considerably lower, nighttime construction activities could result in exceedance of the Table 1 standards. As a result, project construction activities are ***predicted to result in significant adverse effects*** during nighttime hours at receptors located immediately south of the Project site boundary (Receptors 11, 12 & 13 shown on Figure 6).

To mitigate significant adverse effects during project construction, the construction contractor shall implement Best Management Practices (BMP's), including limiting construction to daytime hours to the maximum extent feasible to minimize potential for sleep disturbance, and locating noise-generating construction equipment as far from sensitive receptors as possible. Where extensive evening or nighttime construction operations are necessary (i.e. concrete pours during warm weather conditions), the construction manager shall provide notification to nearby sensitive receptors to allow closure of windows during those periods for improved acoustical isolation.

Construction Vibration

During project construction, heavy equipment would be used for grading, excavation, paving, and building construction, which would generate localized vibration in the immediate vicinity of the construction. The nearest identified existing sensitive receptors are located approximately 200+ feet from where construction activities would occur within the Project site.

Table 19 includes the range of vibration levels for equipment commonly used in general construction projects at a reference distance of 25 feet from the equipment. The Table 19 data also include predicted equipment vibration levels at a distance of 200 feet from proposed construction activities.

Table 19
Vibration Source Levels for Construction Equipment

Equipment	Maximum Vibration Level at 25 feet [VdB (rms)]	Predicted Maximum Vibration Level at 200 feet [VdB (rms)]
Vibratory Roller	94	67
Hoe Ram	87	60
Large bulldozer	87	60
Loaded trucks	86	61
Jackhammer	79	52
Small bulldozer	58	31

Source: 2018 FTA Transit Noise and Vibration Impact Assessment Manual and BAC calculations

As shown in Table 19, with the exception of vibratory roller operations, vibration levels generated from on-site construction activities are predicted to be below the 65 VdB threshold of perception at the nearest existing sensitive receptors located approximately 200+ feet from project construction activities. As a result, with the exception of vibratory roller operations, project-generated construction vibration is predicted to result in ***less than significant adverse effects*** at nearby sensitive receptors.

To mitigate potentially significant adverse effects associated with the use of vibratory roller usage at the project site, the use of vibratory rollers shall be limited to locations beyond 250 feet from an existing sensitive receptor and non-vibratory rollers shall be utilized at locations within 250 feet from an existing sensitive receptor.

Off-Site Traffic Noise

With development of the project, traffic volumes on the local roadway network will increase. Those increases in Average Daily Traffic (ADT) volumes will result in a corresponding increase in traffic noise levels at existing sensitive uses located along those roadways. Two conditions were evaluated for Alternative C: Opening Year 2028 (Baseline) and Cumulative Year 2040.

The FHWA Traffic Noise Model (FHWA-RD-77-108) was used to quantify increases in baseline traffic noise levels at the existing sensitive land uses nearest to the project area roadway network. The FHWA Model predicts hourly Leq values for free-flowing traffic conditions. Estimates of the hourly distribution of traffic for a typical 24-hour period were used to develop DNL values from L_{eq} values. Tables 20 & 21 show the predicted increases in traffic noise levels due to the project relative to opening year and cumulative (2040) conditions without the project.

Table 20
Predicted Traffic Noise Level Increases at Existing Sensitive Receptors – Baseline vs. Baseline + Project Conditions
Shiloh Resort and Casino Project – Alternative C: Non-Gaming

#	Roadway	From	To	Predicted DNL [dBA]			Significance Threshold[1]	Threshold Exceeded?	Sensitive Receptors Present?[2]	Significant Impact Identified?[3]
				Baseline	Baseline + Project	Increase				
1	Shiloh Rd	Conde Ln	Caletti Ave	55.9	55.9	0.0	5	No	Yes	No
2	Shiloh Rd	Caletti Ave	US-101 SB Ramps	66.1	66.1	0.0	5	No	No	No
3	Shiloh Rd	US-101 SB Ramps	US-101 NB Ramps	65.8	66.0	0.2	5	No	No	No
4	Shiloh Rd	US-101 NB Ramps	Hembree Ln	66.0	66.3	0.3	5	No	No	No
5	Shiloh Rd	Hembree Ln	Old Redwood Hwy	67.9	68.5	0.6	3	No	Yes	No
6	Shiloh Rd	Old Redwood Hwy	Gridley Dr	61.6	63.2	1.6	5	No	Yes	No
7	Shiloh Rd	Gridley Dr	Project Entrance East	61.4	62.8	1.4	5	No	Yes	No
8	Shiloh Rd	Project Entrance East	East of Project Entrance	60.9	61.2	0.3	5	No	Yes	No
9	Old Redwood Hwy	North of Shiloh Rd	Shiloh Rd	69.0	69.1	0.1	5	No	Yes	No
10	Old Redwood Hwy	Shiloh Rd	Project Entrance	65.9	66.1	0.2	3	No	Yes	No
11	Old Redwood Hwy	Project Entrance	South of Project Entrance	65.2	65.2	0.0	3	No	Yes	No

Notes

1. Significance threshold derived from Table 4.
2. Sensitive receptors were considered to be residences of all densities, schools, & transient lodging facilities.
3. A significant impact is identified only along segments where the project-related traffic noise level increase would exceed the significance threshold AND where sensitive receptors are present along the roadway segment.

Source: FHWA-RD-77-108 with inputs from project traffic impact study. Appendix E contains FHWA Model inputs for existing plus project conditions.

Table 21
Predicted Traffic Noise Level Increases at Existing Sensitive Receptors – Baseline vs. Cumulative + Project Conditions
Shiloh Resort and Casino Project – Alternative C: Non-Gaming

#	Roadway	From	To	Predicted DNL [dBA]			Significance Threshold[1]	Threshold Exceeded?	Sensitive Receptors Present?[2]	Significant Impact Identified?[3]
				Baseline	Cumulative + Project	Increase				
1	Shiloh Rd	Conde Ln	Caletti Ave	55.9	57.6	1.7	5.0	No	Yes	No
2	Shiloh Rd	Caletti Ave	US-101 SB Ramps	66.1	67.5	1.4	5.0	No	No	No
3	Shiloh Rd	US-101 SB Ramps	US-101 NB Ramps	65.8	67.8	2.0	5.0	No	No	No
4	Shiloh Rd	US-101 NB Ramps	Hembree Ln	66.0	68.0	2.0	5.0	No	No	No
5	Shiloh Rd	Hembree Ln	Old Redwood Hwy	67.9	71.1	3.2	3.0	Yes	Yes	Yes
6	Shiloh Rd	Old Redwood Hwy	Gridley Dr	61.6	64.2	2.6	5.0	No	Yes	No
7	Shiloh Rd	Gridley Dr	Project Entrance East	61.4	63.7	2.3	5.0	No	Yes	No
8	Shiloh Rd	Project Entrance East	East of Project Ent.	60.9	62.3	1.4	5.0	No	Yes	No
9	Old Redwood Hwy	North of Shiloh Rd	Shiloh Rd	69.0	71.3	2.3	5.0	No	Yes	No
10	Old Redwood Hwy	Shiloh Rd	Project Entrance	65.9	69.5	3.6	3.0	Yes	Yes	Yes
11	Old Redwood Hwy	Project Entrance	South of Project Ent.	65.2	66.4	1.2	3.0	No	Yes	No

Notes

1. Significance threshold derived from Table 4.
2. Sensitive receptors were considered to be residences of all densities, schools, & transient lodging facilities.
3. A significant impact is identified only along segments where the project-related traffic noise level increase would exceed the significance threshold AND where sensitive receptors are present along the roadway segment.

Source: FHWA-RD-77-108 with inputs from project traffic impact study. Appendix E contains FHWA Model inputs for cumulative conditions.

The data in Table 20 indicate that project-generated traffic noise level increases would not result in significant adverse noise effects relative to existing / baseline conditions. In addition, the project would not cause traffic noise levels to exceed the 67 dBA threshold applicable to residential uses at locations where existing residences are present. As a result, off-site traffic noise level increases resulting from the project are ***not predicted to result in significant adverse effects*** relative to baseline conditions without the project.

The data in Table 21 indicate that the cumulative plus project traffic noise environment would exceed the existing / baseline traffic noise environment by 1.2 to 3.6 dBA DNL at existing sensitive receptors located adjacent to the project-area roadways. The cumulative plus project traffic noise level increases would exceed the applicable significance thresholds along two (2) of the roadway segments containing sensitive land uses. In addition, along one of the roadway segments evaluated in Table 16 (segment 10), cumulative plus project traffic conditions would exceed the 67 dBA threshold applicable to residential uses where that threshold is not currently being exceeded under existing / baseline conditions. As a result, increases in in existing / baseline traffic noise levels resulting from cumulative plus project traffic is predicted to result in ***significant adverse effects*** at the residences located along segments of Shiloh Road and Old Redwood Highway.

Mitigation for Significant Adverse Noise Effects Resulting from Cumulative Plus Project Off-Site Traffic

The mitigation of impacts at existing sensitive receptors resulting from significant project-related traffic noise increases is frequently challenging because of a combination of limited mitigation options, constraints upon implementation of certain options, cost of implementation, and limited effectiveness of some options. Nonetheless, the following specific options for mitigation of off-site traffic noise impacts at existing noise sensitive receptors should be considered to the extent reasonable and feasible:

A. **Noise-Reducing Pavement:** Noise-reducing pavement types, such as rubberized asphalt, have been shown to provide an appreciable noise level reduction relative to other pavement types (approximately 3-4 dB over conventional asphalt overlays). Because a 3-4 dB reduction in traffic noise levels would be sufficient to reduce cumulative plus project traffic noise impacts to a less than significant level, this mitigation alternative would be effective if feasible. Therefore, the project applicant shall be required to pay a fair share towards repaving the impacted roadway segments with noise-reducing pavement during the widening of roadway segments which would be required under cumulative conditions.

On-Site Operational Noise

On-Site noise sources associated with Alternative C include on-site vehicle circulation, parking lot operations, truck deliveries, and swimming pool area activities. Each of these sources were evaluated using the SoundPlan Version 8.2 noise prediction model. Inputs to the SoundPlan model consisted of local topographic data, existing structures, proposed on-site structures, atmospheric data, and operational data obtained from the project description, traffic impact analysis, and BAC reference file data for parking lot, swimming pool, and truck delivery noise. The SoundPlan noise inputs are provided in Appendix H. The SoundPlan modelling results for peak hour conditions at each sensitive receptor identified on Figure 6 are provided in Table 22. Figure 9 shows the average/median noise contours for on-site noise sources associated with Alternative C.

Table 22
Predicted Noise Levels from On-Site Activities
Shiloh Resort and Casino Project – Alternative C: Non-Gaming

	Lmax, dBA					Leq/L50, dBA				
Receiver	**Parking**	**Pool**	**Trucks**	**Traffic**	**Total**	**Parking**	**Pool**	**Trucks**	**Traffic**	**Total**
1	33	33	48	35	**48**	21	29	11	30	**33**
2	39	28	42	41	**39**	25	24	9	36	**37**
3	31	33	41	43	**43**	19	30	8	38	**39**
4	47	37	37	33	**47**	29	34	5	28	**36**
5	51	33	34	21	**51**	36	29	3	16	**36**
6	47	31	49	26	**59**	38	23	8	21	**39**
7	42	20	34	20	**42**	28	19	0	15	**29**
8	43	29	45	25	**45**	34	24	10	20	**35**
9	15	14	30	10	**30**	10	13	0	5	**15**
10	31	31	39	21	**39**	24	25	7	16	**28**
11	35	34	44	25	**44**	29	29	14	20	**33**
12	39	39	46	31	**46**	33	36	15	26	**38**
13	38	32	51	31	**51**	30	27	18	26	**33**
14	41	40	55	36	**55**	35	37	24	31	**40**
15	43	41	58	39	**58**	36	38	27	34	**41**
16	44	43	60	43	**60**	37	38	29	38	**43**
17	46	43	61	47	**61**	35	39	30	42	**44**
18	44	43	59	50	**59**	32	39	28	45	**46**
19	35	40	52	39	**52**	27	34	20	34	**38**
20	33	38	49	36	**49**	25	33	18	31	**35**

Source: Bollard Acoustical Consultants, Inc. (BAC) 2022

Figure 9

Shiloh Resort & Casino
Alternative C
Noise Contours (L_{eq}/L_{50}) for from combined noise sources: pool area, on-site traffic, passenger parking, and truck loading docks.

Legend

L_{eq}/L_{50} [dBA]

>=		60
55	-	60
50	-	55
45	-	50

Noise-Sensitive Receiver

N

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The predicted *maximum* noise levels identified in Table 22 for on-site noise sources are below the 65 dBA Lmax daytime noise level standard applicable at the nearest Sonoma County residences (receivers 5-20 on Figure 6). Because project nighttime noise generation is predicted to be lower than daytime noise generation, noise generated by on-site activities is also predicted to be satisfactory relative to the County's 60 dBA Lmax nighttime noise standard and be well below baseline ambient noise levels at the Sonoma County residences.

The predicted *maximum* noise levels identified in Table 22 for on-site noise sources are below the 55 dBA Lmax daytime noise level standard applicable at the nearest Town of Windsor residences (receivers 1-4 on Figure 6). Because project nighttime noise generation is predicted to be lower than daytime noise generation, noise generated by on-site activities is also predicted to be satisfactory relative to the Town of Windsor nighttime 50 dBA Lmax nighttime noise level standard at the nearest residences. In addition, comparison of the predicted maximum noise levels generated by the project against the ambient noise survey results indicates that no substantial increase in single-event, *maximum* ambient noise levels would result from the project. As a result, ***no significant adverse noise effects are identified*** for project-generated, single-event maximum noise levels at the nearest sensitive receptors to the project site from on-site activities.

The predicted *average/median* (Leq/L50) noise levels identified in Table 22 for on-site noise sources are below the 50 and 55 dBA daytime average/median noise standards of Sonoma County and the Town of Windsor, respectively. Because peak nighttime noise generation is predicted to be considerably lower than peak daytime project noise generation, on-site activities at the project site are not expected to cause exceedance of the applicable local average/median nighttime noise level standards at the nearest sensitive receptors. As a result, on-site noise resulting from the project is predicted to be ***less than significant.***

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.

IIC Impact Insulation Class (IIC): A single-number representation of a floor/ceiling partition's impact generated noise insulation performance. The field-measured version of this number is the FIIC.

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.

Loudness A subjective term for the sensation of the magnitude of sound.

Masking The amount (or the process) by which the threshold of audibility is for one sound is raised by the presence of another (masking) sound.

Noise Unwanted sound.

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 "Maximum" 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.

STC Sound Transmission Class (STC): A single-number representation of a partition's noise insulation performance. This number is based on laboratory-measured, 16-band (1/3-octave) transmission loss (TL) data of the subject partition. The field-measured version of this number is the FSTC.

Legend

A Site 1 Facing South

B Site 2 Facing North

C Site 3 Facing West

D Site 4 Facing West

Shiloh Resort & Casino

Photographs of Survey Locations
Sonoma County, California

Appendix B-1

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Legend

- A Site 1 Facing South
- B Site 2 Facing West
- C Site 3 Facing West
- D Site 4 Facing South

Shiloh Resort & Casino

Photographs of Survey Locations
Sonoma County, California

Appendix B-2

BOLLARD Acoustical Consultants

Appendix C-1
Long-Term Ambient Noise Monitoring Results - Site 1
Shiloh Resort & Casino - Sonoma County, California
Friday, April 29, 2022

Hour	Leq	Lmax	L50	L90
12:00 AM	38	48	37	35
1:00 AM	36	47	36	33
2:00 AM	36	55	35	32
3:00 AM	37	48	36	33
4:00 AM	39	48	38	36
5:00 AM	53	74	42	39
6:00 AM	48	58	47	45
7:00 AM	52	75	47	45
8:00 AM	46	60	45	42
9:00 AM	48	70	42	39
10:00 AM	46	66	41	38
11:00 AM	51	72	45	40
12:00 PM	50	69	44	40
1:00 PM	47	67	43	40
2:00 PM	47	60	45	44
3:00 PM	48	71	43	41
4:00 PM	47	64	44	40
5:00 PM	43	61	42	39
6:00 PM	46	63	45	43
7:00 PM	46	68	45	43
8:00 PM	47	54	47	44
9:00 PM	47	60	47	46
10:00 PM	48	73	44	42
11:00 PM	41	48	41	39

	Statistical Summary					
	Daytime (7 a.m. - 10 p.m.)			Nighttime (10 p.m. - 7 a.m.)		
	High	Low	Average	High	Low	Average
Leq (Average)	52	43	48	53	36	46
Lmax (Maximum)	75	54	65	74	47	56
L50 (Median)	47	41	44	47	35	40
L90 (Background)	46	38	42	45	32	37

Computed DNL, dB	53
% Daytime Energy	70%
% Nighttime Energy	30%

GPS Coordinates	38°31'21.27"N
	122°46'13.22"W

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Appendix C-2
Long-Term Ambient Noise Monitoring Results - Site 1
Shiloh Resort & Casino - Sonoma County, California
Saturday, April 30, 2022

Hour	Leq	Lmax	L50	L90
12:00 AM	40	46	40	37
1:00 AM	38	49	37	35
2:00 AM	37	51	37	34
3:00 AM	37	49	35	33
4:00 AM	43	49	41	33
5:00 AM	51	70	46	41
6:00 AM	48	57	47	45
7:00 AM	48	55	48	45
8:00 AM	45	73	43	40
9:00 AM	50	73	45	42
10:00 AM	47	68	45	43
11:00 AM	46	55	45	43
12:00 PM	45	57	44	42
1:00 PM	47	62	45	42
2:00 PM	48	60	47	46
3:00 PM	49	63	48	46
4:00 PM	47	57	46	43
5:00 PM	46	67	45	42
6:00 PM	49	67	45	43
7:00 PM	47	60	46	43
8:00 PM	50	60	51	44
9:00 PM	51	71	50	46
10:00 PM	45	53	44	40
11:00 PM	42	51	41	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)	51	45	48	51	37	45
Lmax (Maximum)	73	55	63	70	46	53
L50 (Median)	51	43	46	47	35	41
L90 (Background)	46	40	43	45	33	37

Computed DNL, dB	52
% Daytime Energy	76%
% Nighttime Energy	24%

GPS Coordinates	38°31'21.27"N
	122°46'13.22"W

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Appendix C-3
Long-Term Ambient Noise Monitoring Results - Site 1
Shiloh Resort & Casino - Sonoma County, California
Sunday, May 1, 2022

Hour	Leq	Lmax	L50	L90
12:00 AM	39	59	38	36
1:00 AM	39	59	37	35
2:00 AM	41	47	39	35
3:00 AM	40	50	40	31
4:00 AM	38	63	33	30
5:00 AM	55	75	42	33
6:00 AM	45	55	43	41
7:00 AM	44	65	41	39
8:00 AM	45	65	40	38
9:00 AM	45	64	41	38
10:00 AM	43	56	41	39
11:00 AM	46	65	44	40
12:00 PM	44	60	41	38
1:00 PM	46	67	41	37
2:00 PM	46	62	43	40
3:00 PM	47	65	44	43
4:00 PM	46	64	44	43
5:00 PM	45	56	43	42
6:00 PM	47	63	46	41
7:00 PM	45	63	43	41
8:00 PM	51	60	51	46
9:00 PM	52	71	50	48
10:00 PM	51	54	52	49
11:00 PM	50	53	51	46

	Statistical Summary					
	Daytime (7 a.m. - 10 p.m.)			Nighttime (10 p.m. - 7 a.m.)		
	High	Low	Average	High	Low	Average
Leq (Average)	52	43	47	55	38	49
Lmax (Maximum)	71	56	63	75	47	57
L50 (Median)	51	40	44	52	33	42
L90 (Background)	48	37	41	49	30	37

Computed DNL, dB	55
% Daytime Energy	52%
% Nighttime Energy	48%

GPS Coordinates	38°31'21.27"N
	122°46'13.22"W

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Appendix C-4
Long-Term Ambient Noise Monitoring Results - Site 1
Shiloh Resort & Casino - Sonoma County, California
Monday, May 2, 2022

Hour	Leq	Lmax	L50	L90
12:00 AM	43	51	39	36
1:00 AM	38	53	37	35
2:00 AM	40	61	37	34
3:00 AM	39	53	38	35
4:00 AM	41	48	41	37
5:00 AM	49	59	45	43
6:00 AM	50	62	49	48
7:00 AM	48	69	47	44
8:00 AM	46	66	44	41
9:00 AM	45	56	43	40
10:00 AM	47	57	46	42
11:00 AM	48	72	45	43
12:00 PM	47	64	45	43
1:00 PM	50	72	47	45
2:00 PM	49	65	47	45
3:00 PM	52	62	51	47
4:00 PM	53	64	52	48
5:00 PM	52	67	50	47
6:00 PM	50	61	49	45
7:00 PM	47	61	45	43
8:00 PM	47	54	47	43
9:00 PM	48	65	47	41
10:00 PM	42	49	42	39
11:00 PM	41	50	39	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)	53	45	49	50	38	45
Lmax (Maximum)	72	54	64	62	48	54
L50 (Median)	52	43	47	49	37	41
L90 (Background)	48	40	44	48	34	38

Computed DNL, dB	52
% Daytime Energy	83%
% Nighttime Energy	17%

GPS Coordinates	38°31'21.27"N
	122°46'13.22"W

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Appendix C-5
Long-Term Ambient Noise Monitoring Results - Site 1
Shiloh Resort & Casino - Sonoma County, California
Tuesday, May 3, 2022

Hour	Leq	Lmax	L50	L90
12:00 AM	37	53	36	34
1:00 AM	37	44	36	35
2:00 AM	34	43	34	30
3:00 AM	34	43	34	31
4:00 AM	36	47	35	32
5:00 AM	48	62	43	38
6:00 AM	46	57	46	43
7:00 AM	46	60	45	43
8:00 AM	60	82	45	43
9:00 AM	45	63	44	41
10:00 AM	44	64	42	39
11:00 AM	45	63	42	39
12:00 PM	44	60	42	39
1:00 PM	45	65	42	39
2:00 PM	45	62	42	40
3:00 PM	44	60	43	40
4:00 PM	46	65	44	42
5:00 PM	45	62	44	43
6:00 PM	45	65	42	39
7:00 PM	45	62	42	40
8:00 PM	45	52	45	41
9:00 PM	49	52	49	46
10:00 PM	43	53	42	40
11:00 PM	40	49	40	36

	Statistical Summary					
	Daytime (7 a.m. - 10 p.m.)			Nighttime (10 p.m. - 7 a.m.)		
	High	Low	Average	High	Low	Average
Leq (Average)	60	44	50	48	34	42
Lmax (Maximum)	82	52	62	62	43	50
L50 (Median)	49	42	43	46	34	38
L90 (Background)	46	39	41	43	30	35

Computed DNL, dB	51
% Daytime Energy	90%
% Nighttime Energy	10%

GPS Coordinates	38°31'21.27"N
	122°46'13.22"W

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Appendix C-6
Long-Term Ambient Noise Monitoring Results - Site 2
Shiloh Resort & Casino - Sonoma County, California
Friday, April 29, 2022

Hour	Leq	Lmax	L50	L90
12:00 AM	47	71	36	34
1:00 AM	45	71	34	33
2:00 AM	41	70	34	32
3:00 AM	37	49	36	34
4:00 AM	50	74	38	35
5:00 AM	58	77	43	39
6:00 AM	63	85	52	47
7:00 AM	62	78	52	46
8:00 AM	63	77	54	44
9:00 AM	62	84	49	40
10:00 AM	62	79	50	40
11:00 AM	61	78	52	42
12:00 PM	60	75	51	43
1:00 PM	61	78	51	43
2:00 PM	61	77	52	45
3:00 PM	62	76	54	44
4:00 PM	61	76	50	43
5:00 PM	60	81	48	41
6:00 PM	60	77	48	43
7:00 PM	58	73	46	43
8:00 PM	57	80	44	41
9:00 PM	55	77	42	40
10:00 PM	56	78	41	39
11:00 PM	54	78	38	36

	Statistical Summary					
	Daytime (7 a.m. - 10 p.m.)			Nighttime (10 p.m. - 7 a.m.)		
	High	Low	Average	High	Low	Average
Leq (Average)	63	55	61	63	37	56
Lmax (Maximum)	84	73	78	85	49	72
L50 (Median)	54	42	50	52	34	39
L90 (Background)	46	40	43	47	32	36

Computed DNL, dB	63
% Daytime Energy	83%
% Nighttime Energy	17%

GPS Coordinates	38°31'32.04"N
	122°46'14.39"W

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Appendix C-7
Long-Term Ambient Noise Monitoring Results - Site 2
Shiloh Resort & Casino - Sonoma County, California
Saturday, April 30, 2022

Hour	Leq	Lmax	L50	L90
12:00 AM	45	71	36	34
1:00 AM	44	71	35	33
2:00 AM	47	73	35	33
3:00 AM	42	68	35	33
4:00 AM	46	71	35	32
5:00 AM	55	74	44	39
6:00 AM	57	74	48	46
7:00 AM	60	80	49	46
8:00 AM	60	80	47	42
9:00 AM	61	79	50	45
10:00 AM	60	75	51	45
11:00 AM	61	80	51	45
12:00 PM	61	82	49	43
1:00 PM	60	77	49	43
2:00 PM	60	78	52	47
3:00 PM	62	81	53	48
4:00 PM	62	87	52	46
5:00 PM	60	76	48	42
6:00 PM	60	79	48	44
7:00 PM	58	78	47	44
8:00 PM	57	74	45	42
9:00 PM	56	78	44	42
10:00 PM	53	73	42	40
11:00 PM	53	75	39	37

	Statistical Summary					
	Daytime (7 a.m. - 10 p.m.)			Nighttime (10 p.m. - 7 a.m.)		
	High	Low	Average	High	Low	Average
Leq (Average)	62	56	60	57	42	52
Lmax (Maximum)	87	74	79	75	68	72
L50 (Median)	53	44	49	48	35	39
L90 (Background)	48	42	44	46	32	36

Computed DNL, dB	61
% Daytime Energy	92%
% Nighttime Energy	8%

GPS Coordinates	38°31'32.04"N
	122°46'14.39"W

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Appendix C-8
Long-Term Ambient Noise Monitoring Results - Site 2
Shiloh Resort & Casino - Sonoma County, California
Sunday, May 1, 2022

Hour	Leq	Lmax	L50	L90
12:00 AM	46	72	37	36
1:00 AM	47	70	36	34
2:00 AM	36	60	35	33
3:00 AM	41	70	33	32
4:00 AM	45	71	33	32
5:00 AM	55	79	39	33
6:00 AM	55	73	46	41
7:00 AM	57	76	44	39
8:00 AM	59	77	46	38
9:00 AM	60	76	47	39
10:00 AM	62	91	49	40
11:00 AM	60	79	49	41
12:00 PM	61	87	46	39
1:00 PM	59	74	46	38
2:00 PM	58	73	47	42
3:00 PM	59	76	47	43
4:00 PM	59	75	47	43
5:00 PM	57	73	45	41
6:00 PM	59	79	45	41
7:00 PM	57	76	45	41
8:00 PM	57	80	44	40
9:00 PM	55	78	43	40
10:00 PM	51	73	40	38
11:00 PM	49	72	38	36

	Statistical Summary					
	Daytime (7 a.m. - 10 p.m.)			Nighttime (10 p.m. - 7 a.m.)		
	High	Low	Average	High	Low	Average
Leq (Average)	62	55	59	55	36	50
Lmax (Maximum)	91	73	78	79	60	71
L50 (Median)	49	43	46	46	33	38
L90 (Background)	43	38	40	41	32	35

Computed DNL, dB	59
% Daytime Energy	92%
% Nighttime Energy	8%

GPS Coordinates	38°31'32.04"N
	122°46'14.39"W

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Appendix C-9
Long-Term Ambient Noise Monitoring Results - Site 2
Shiloh Resort & Casino - Sonoma County, California
Monday, May 2, 2022

Hour	Leq	Lmax	L50	L90
12:00 AM	46	74	37	34
1:00 AM	37	49	37	35
2:00 AM	42	68	38	34
3:00 AM	40	48	39	36
4:00 AM	50	74	42	38
5:00 AM	57	75	46	43
6:00 AM	63	79	54	50
7:00 AM	62	78	52	47
8:00 AM	63	76	53	44
9:00 AM	61	79	48	40
10:00 AM	60	77	48	43
11:00 AM	61	85	49	45
12:00 PM	62	80	51	45
1:00 PM	62	82	51	47
2:00 PM	62	77	53	47
3:00 PM	63	78	55	48
4:00 PM	62	76	54	49
5:00 PM	61	82	52	48
6:00 PM	60	86	49	45
7:00 PM	58	82	46	43
8:00 PM	56	73	44	42
9:00 PM	53	77	41	39
10:00 PM	47	69	39	37
11:00 PM	48	72	35	33

	Statistical Summary					
	Daytime (7 a.m. - 10 p.m.)			Nighttime (10 p.m. - 7 a.m.)		
	High	Low	Average	High	Low	Average
Leq (Average)	63	53	61	63	37	55
Lmax (Maximum)	86	73	79	79	48	67
L50 (Median)	55	41	50	54	35	41
L90 (Background)	49	39	45	50	33	38

Computed DNL, dB	63
% Daytime Energy	88%
% Nighttime Energy	12%

GPS Coordinates	38°31'32.04"N
	122°46'14.39"W

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Appendix C-10
Long-Term Ambient Noise Monitoring Results - Site 2
Shiloh Resort & Casino - Sonoma County, California
Tuesday, May 3, 2022

Hour	Leq	Lmax	L50	L90
12:00 AM	35	52	34	32
1:00 AM	34	46	33	32
2:00 AM	33	53	32	31
3:00 AM	41	69	35	32
4:00 AM	48	73	36	33
5:00 AM	57	75	43	38
6:00 AM	62	81	50	45
7:00 AM	62	82	49	43
8:00 AM	62	80	53	44
9:00 AM	61	78	47	40
10:00 AM	61	80	48	40
11:00 AM	60	77	47	40
12:00 PM	60	76	48	40
1:00 PM	61	80	49	40
2:00 PM	61	76	50	40
3:00 PM	62	78	53	43
4:00 PM	61	77	50	44
5:00 PM	59	75	48	43
6:00 PM	59	80	47	41
7:00 PM	57	76	45	41
8:00 PM	56	74	42	40
9:00 PM	53	72	40	38
10:00 PM	49	75	40	38
11:00 PM	48	71	41	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)	62	53	60	62	33	54
Lmax (Maximum)	82	72	77	81	46	66
L50 (Median)	53	40	48	50	32	38
L90 (Background)	44	38	41	45	31	35

Computed DNL, dB	62
% Daytime Energy	87%
% Nighttime Energy	13%

GPS Coordinates	38°31'32.04"N
	122°46'14.39"W

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Appendix C-11
Long-Term Ambient Noise Monitoring Results - Site 3
Shiloh Resort & Casino - Sonoma County, California
Friday, April 29, 2022

Hour	Leq	Lmax	L50	L90
12:00 AM	50	75	39	36
1:00 AM	50	78	37	33
2:00 AM	48	75	35	32
3:00 AM	39	54	36	33
4:00 AM	53	77	39	36
5:00 AM	61	79	45	39
6:00 AM	66	80	51	45
7:00 AM	65	78	52	46
8:00 AM	66	79	55	44
9:00 AM	64	81	50	42
10:00 AM	64	78	52	42
11:00 AM	64	77	52	43
12:00 PM	64	77	52	46
1:00 PM	65	92	52	45
2:00 PM	65	77	54	47
3:00 PM	65	77	56	48
4:00 PM	64	77	54	49
5:00 PM	66	95	51	47
6:00 PM	63	79	51	48
7:00 PM	61	77	51	48
8:00 PM	60	77	50	47
9:00 PM	58	78	48	45
10:00 PM	58	78	46	43
11:00 PM	56	77	43	39

	Statistical Summary					
	Daytime (7 a.m. - 10 p.m.)			Nighttime (10 p.m. - 7 a.m.)		
	High	Low	Average	High	Low	Average
Leq (Average)	66	58	64	66	39	58
Lmax (Maximum)	95	77	80	80	54	75
L50 (Median)	56	48	52	51	35	41
L90 (Background)	49	42	46	45	32	37

Computed DNL, dB	66
% Daytime Energy	86%
% Nighttime Energy	14%

GPS Coordinates	38°31'32.23"N
	122°46'37.89"W

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Appendix C-12
Long-Term Ambient Noise Monitoring Results - Site 3
Shiloh Resort & Casino - Sonoma County, California
Saturday, April 30, 2022

Hour	Leq	Lmax	L50	L90
12:00 AM	50	74	40	37
1:00 AM	48	75	38	35
2:00 AM	50	76	38	35
3:00 AM	46	70	39	34
4:00 AM	51	77	43	34
5:00 AM	58	80	48	44
6:00 AM	61	77	51	48
7:00 AM	63	79	50	46
8:00 AM	63	78	49	43
9:00 AM	63	78	53	48
10:00 AM	63	78	53	48
11:00 AM	64	87	52	48
12:00 PM	63	83	52	46
1:00 PM	63	77	53	48
2:00 PM	64	77	55	51
3:00 PM	65	88	56	53
4:00 PM	65	85	55	49
5:00 PM	63	79	51	47
6:00 PM	62	78	51	47
7:00 PM	61	77	51	49
8:00 PM	60	79	50	48
9:00 PM	59	78	50	47
10:00 PM	58	75	47	44
11:00 PM	57	79	43	40

	Statistical Summary					
	Daytime (7 a.m. - 10 p.m.)			Nighttime (10 p.m. - 7 a.m.)		
	High	Low	Average	High	Low	Average
Leq (Average)	65	59	63	61	46	56
Lmax (Maximum)	88	77	80	80	70	76
L50 (Median)	56	49	52	51	38	43
L90 (Background)	53	43	48	48	34	39

Computed DNL, dB	64
% Daytime Energy	90%
% Nighttime Energy	10%

GPS Coordinates	38°31'32.23"N
	122°46'37.89"W

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Appendix C-13
Long-Term Ambient Noise Monitoring Results - Site 3
Shiloh Resort & Casino - Sonoma County, California
Sunday, May 1, 2022

Hour	Leq	Lmax	L50	L90
12:00 AM	50	76	41	38
1:00 AM	52	76	40	37
2:00 AM	45	74	38	34
3:00 AM	41	70	35	31
4:00 AM	48	75	35	32
5:00 AM	58	81	40	33
6:00 AM	58	78	43	39
7:00 AM	60	79	42	39
8:00 AM	63	79	46	41
9:00 AM	63	77	49	41
10:00 AM	69	100	51	45
11:00 AM	64	77	51	44
12:00 PM	63	87	49	44
1:00 PM	63	76	49	42
2:00 PM	62	78	51	47
3:00 PM	62	79	52	49
4:00 PM	63	76	52	49
5:00 PM	61	75	50	47
6:00 PM	62	78	50	47
7:00 PM	60	78	50	47
8:00 PM	60	77	49	45
9:00 PM	57	78	48	44
10:00 PM	55	78	45	42
11:00 PM	52	75	41	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)	69	57	63	58	41	54
Lmax (Maximum)	100	75	80	81	70	76
L50 (Median)	52	42	49	45	35	40
L90 (Background)	49	39	45	42	31	36

Computed DNL, dB	63
% Daytime Energy	94%
% Nighttime Energy	6%

GPS Coordinates	38°31'32.23"N
	122°46'37.89"W

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Appendix C-14
Long-Term Ambient Noise Monitoring Results - Site 3
Shiloh Resort & Casino - Sonoma County, California
Monday, May 2, 2022

Hour	Leq	Lmax	L50	L90
12:00 AM	51	78	39	36
1:00 AM	42	54	39	35
2:00 AM	45	72	40	35
3:00 AM	42	53	40	37
4:00 AM	53	77	44	40
5:00 AM	60	78	50	45
6:00 AM	66	82	55	52
7:00 AM	65	83	54	50
8:00 AM	66	79	56	49
9:00 AM	64	82	50	45
10:00 AM	64	82	52	47
11:00 AM	63	78	53	49
12:00 PM	65	82	55	50
1:00 PM	64	80	56	51
2:00 PM	65	79	56	51
3:00 PM	67	93	59	53
4:00 PM	65	82	57	53
5:00 PM	64	80	55	52
6:00 PM	62	79	53	50
7:00 PM	61	79	51	48
8:00 PM	59	75	50	47
9:00 PM	56	75	47	44
10:00 PM	51	75	43	40
11:00 PM	52	79	39	36

	Statistical Summary					
	Daytime (7 a.m. - 10 p.m.)			Nighttime (10 p.m. - 7 a.m.)		
	High	Low	Average	High	Low	Average
Leq (Average)	67	56	64	66	42	58
Lmax (Maximum)	93	75	81	82	53	72
L50 (Median)	59	47	54	55	39	43
L90 (Background)	53	44	49	52	35	39

Computed DNL, dB	66
% Daytime Energy	87%
% Nighttime Energy	13%

GPS Coordinates	38°31'32.23"N
	122°46'37.89"W

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Appendix C-15
Long-Term Ambient Noise Monitoring Results - Site 3
Shiloh Resort & Casino - Sonoma County, California
Tuesday, May 3, 2022

Hour	Leq	Lmax	L50	L90
12:00 AM	38	63	36	33
1:00 AM	44	73	33	31
2:00 AM	34	45	32	29
3:00 AM	40	66	36	32
4:00 AM	51	76	37	33
5:00 AM	60	80	44	40
6:00 AM	65	79	51	46
7:00 AM	65	83	52	46
8:00 AM	65	78	58	46
9:00 AM	64	81	52	44
10:00 AM	64	82	56	44
11:00 AM	63	76	51	44
12:00 PM	63	79	52	45
1:00 PM	64	77	51	42
2:00 PM	64	76	53	43
3:00 PM	64	77	55	48
4:00 PM	64	77	53	49
5:00 PM	63	78	53	49
6:00 PM	62	80	51	47
7:00 PM	60	77	50	47
8:00 PM	59	77	49	46
9:00 PM	57	77	47	44
10:00 PM	55	82	44	41
11:00 PM	52	75	42	39

	Statistical Summary					
	Daytime (7 a.m. - 10 p.m.)			Nighttime (10 p.m. - 7 a.m.)		
	High	Low	Average	High	Low	Average
Leq (Average)	65	57	63	65	34	57
Lmax (Maximum)	83	76	78	82	45	71
L50 (Median)	58	47	52	51	32	40
L90 (Background)	49	42	46	46	29	36

Computed DNL, dB	65
% Daytime Energy	87%
% Nighttime Energy	13%

GPS Coordinates	38°31'32.23"N
	122°46'37.89"W

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Appendix C-16
Long-Term Ambient Noise Monitoring Results - Site 4
Shiloh Resort & Casino - Sonoma County, California
Friday, April 29, 2022

Hour	Leq	Lmax	L50	L90
12:00 AM	55	76	41	37
1:00 AM	48	67	40	35
2:00 AM	46	66	38	34
3:00 AM	51	71	39	36
4:00 AM	53	74	42	39
5:00 AM	58	77	48	42
6:00 AM	62	75	56	49
7:00 AM	64	77	61	51
8:00 AM	65	80	62	51
9:00 AM	63	76	61	48
10:00 AM	63	77	61	50
11:00 AM	63	75	61	50
12:00 PM	64	77	62	50
1:00 PM	64	76	62	51
2:00 PM	64	78	62	52
3:00 PM	64	75	63	52
4:00 PM	65	80	64	53
5:00 PM	64	75	63	52
6:00 PM	64	80	61	50
7:00 PM	63	80	59	50
8:00 PM	61	84	57	48
9:00 PM	61	76	55	46
10:00 PM	59	78	51	45
11:00 PM	57	76	46	41

	Statistical Summary					
	Daytime (7 a.m. - 10 p.m.)			Nighttime (10 p.m. - 7 a.m.)		
	High	Low	Average	High	Low	Average
Leq (Average)	65	61	63	62	46	56
Lmax (Maximum)	84	75	78	78	66	73
L50 (Median)	64	55	61	56	38	45
L90 (Background)	53	46	50	49	34	40

Computed DNL, dB	65
% Daytime Energy	89%
% Nighttime Energy	11%

GPS Coordinates	38°31'20.73"N
	122°46'34.08"W

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Appendix C-17
Long-Term Ambient Noise Monitoring Results - Site 4
Shiloh Resort & Casino - Sonoma County, California
Saturday, April 30, 2022

Hour	Leq	Lmax	L50	L90
12:00 AM	53	73	42	39
1:00 AM	52	76	40	36
2:00 AM	52	73	40	37
3:00 AM	50	68	43	39
4:00 AM	50	69	43	38
5:00 AM	55	71	47	43
6:00 AM	58	71	52	48
7:00 AM	61	75	55	48
8:00 AM	64	87	59	47
9:00 AM	63	75	61	51
10:00 AM	64	85	61	51
11:00 AM	64	80	62	52
12:00 PM	64	79	62	52
1:00 PM	64	79	62	52
2:00 PM	64	78	62	53
3:00 PM	65	86	62	53
4:00 PM	64	80	61	52
5:00 PM	63	79	60	49
6:00 PM	63	80	60	51
7:00 PM	62	76	58	50
8:00 PM	62	86	57	49
9:00 PM	59	76	53	47
10:00 PM	57	72	49	44
11:00 PM	55	71	46	40

	Statistical Summary					
	Daytime (7 a.m. - 10 p.m.)			Nighttime (10 p.m. - 7 a.m.)		
	High	Low	Average	High	Low	Average
Leq (Average)	65	59	63	58	50	54
Lmax (Maximum)	87	75	80	76	68	71
L50 (Median)	62	53	60	52	40	45
L90 (Background)	53	47	50	48	36	41

Computed DNL, dB	64
% Daytime Energy	93%
% Nighttime Energy	7%

GPS Coordinates	38°31'20.73"N
	122°46'34.08"W

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Appendix C-18
Long-Term Ambient Noise Monitoring Results - Site 4
Shiloh Resort & Casino - Sonoma County, California
Sunday, May 1, 2022

Hour	Leq	Lmax	L50	L90
12:00 AM	55	75	42	38
1:00 AM	51	70	41	38
2:00 AM	51	74	38	34
3:00 AM	47	70	39	34
4:00 AM	50	72	39	34
5:00 AM	51	68	41	35
6:00 AM	57	77	48	41
7:00 AM	59	77	49	41
8:00 AM	61	77	54	43
9:00 AM	62	74	58	46
10:00 AM	63	76	60	46
11:00 AM	63	77	61	48
12:00 PM	63	80	61	49
1:00 PM	62	75	60	48
2:00 PM	62	77	60	48
3:00 PM	62	76	60	50
4:00 PM	63	75	60	50
5:00 PM	62	84	59	48
6:00 PM	62	79	58	48
7:00 PM	61	77	58	49
8:00 PM	61	76	55	46
9:00 PM	59	73	51	45
10:00 PM	58	76	47	43
11:00 PM	53	76	42	39

	Statistical Summary					
	Daytime (7 a.m. - 10 p.m.)			Nighttime (10 p.m. - 7 a.m.)		
	High	Low	Average	High	Low	Average
Leq (Average)	63	59	62	58	47	54
Lmax (Maximum)	84	73	77	77	68	73
L50 (Median)	61	49	57	48	38	42
L90 (Background)	50	41	47	43	34	37

Computed DNL, dB	63
% Daytime Energy	91%
% Nighttime Energy	9%

GPS Coordinates	38°31'20.73"N
	122°46'34.08"W

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Appendix C-19
Long-Term Ambient Noise Monitoring Results - Site 4
Shiloh Resort & Casino - Sonoma County, California
Monday, May 2, 2022

Hour	Leq	Lmax	L50	L90
12:00 AM	49	68	40	37
1:00 AM	52	76	39	35
2:00 AM	49	71	40	35
3:00 AM	50	71	41	39
4:00 AM	53	72	45	41
5:00 AM	59	77	51	45
6:00 AM	63	76	58	51
7:00 AM	65	76	62	51
8:00 AM	65	76	63	50
9:00 AM	63	75	60	47
10:00 AM	63	74	61	51
11:00 AM	63	74	61	51
12:00 PM	63	82	60	51
1:00 PM	63	78	61	52
2:00 PM	64	75	62	54
3:00 PM	65	79	63	56
4:00 PM	65	77	64	57
5:00 PM	65	82	63	55
6:00 PM	63	75	60	51
7:00 PM	65	92	58	49
8:00 PM	61	77	57	48
9:00 PM	59	80	51	44
10:00 PM	56	74	46	41
11:00 PM	52	69	42	37

	Statistical Summary					
	Daytime (7 a.m. - 10 p.m.)			Nighttime (10 p.m. - 7 a.m.)		
	High	Low	Average	High	Low	Average
Leq (Average)	65	59	64	63	49	57
Lmax (Maximum)	92	74	78	77	68	73
L50 (Median)	64	51	60	58	39	45
L90 (Background)	57	44	51	51	35	40

Computed DNL, dB	65
% Daytime Energy	89%
% Nighttime Energy	11%

GPS Coordinates	38°31'20.73"N
	122°46'34.08"W

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Appendix C-20
Long-Term Ambient Noise Monitoring Results - Site 4
Shiloh Resort & Casino - Sonoma County, California
Tuesday, May 3, 2022

Hour	Leq	Lmax	L50	L90
12:00 AM	49	69	38	35
1:00 AM	42	63	37	34
2:00 AM	46	68	35	32
3:00 AM	49	71	38	35
4:00 AM	49	70	40	35
5:00 AM	58	74	49	43
6:00 AM	62	75	57	48
7:00 AM	64	75	61	50
8:00 AM	64	77	63	51
9:00 AM	63	82	60	49
10:00 AM	62	74	59	48
11:00 AM	62	75	60	48
12:00 PM	63	81	61	50
1:00 PM	63	78	61	49
2:00 PM	63	77	62	50
3:00 PM	65	89	63	53
4:00 PM	65	80	64	55
5:00 PM	65	87	63	53
6:00 PM	65	93	60	49
7:00 PM	62	75	59	48
8:00 PM	63	91	56	47
9:00 PM	59	77	51	44
10:00 PM	58	76	47	41
11:00 PM	55	77	41	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)	65	59	63	62	42	56
Lmax (Maximum)	93	74	81	77	63	71
L50 (Median)	64	51	60	57	35	42
L90 (Background)	55	44	49	48	32	38

Computed DNL, dB	65
% Daytime Energy	90%
% Nighttime Energy	10%

GPS Coordinates	38°31'20.73"N
	122°46'34.08"W

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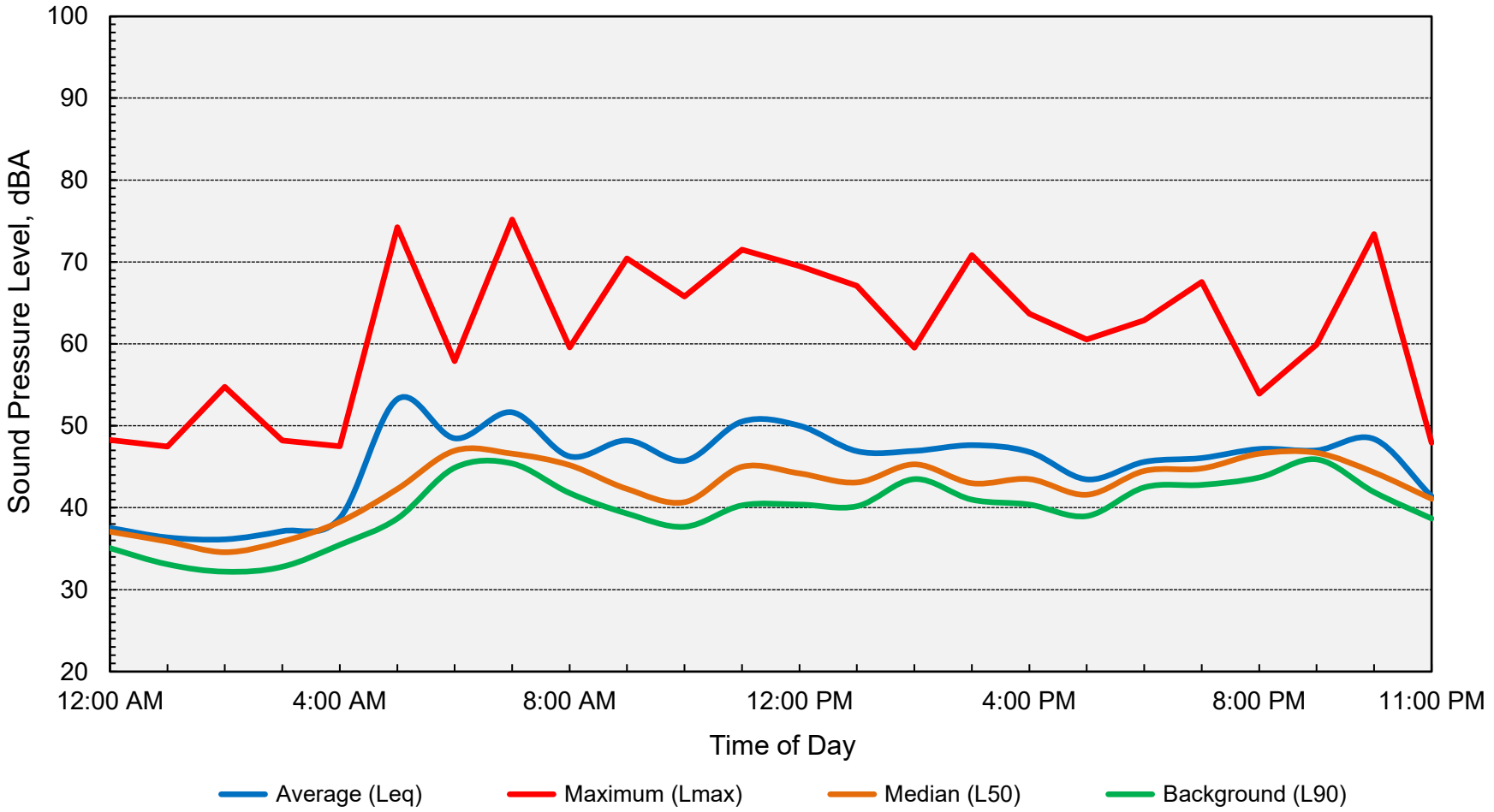
Appendix D-1
Long-Term Ambient Noise Monitoring Results - Site 1
Shiloh Resort & Casino - Sonoma County, California
Friday, April 29, 2022



Computed DNL = 53 dB

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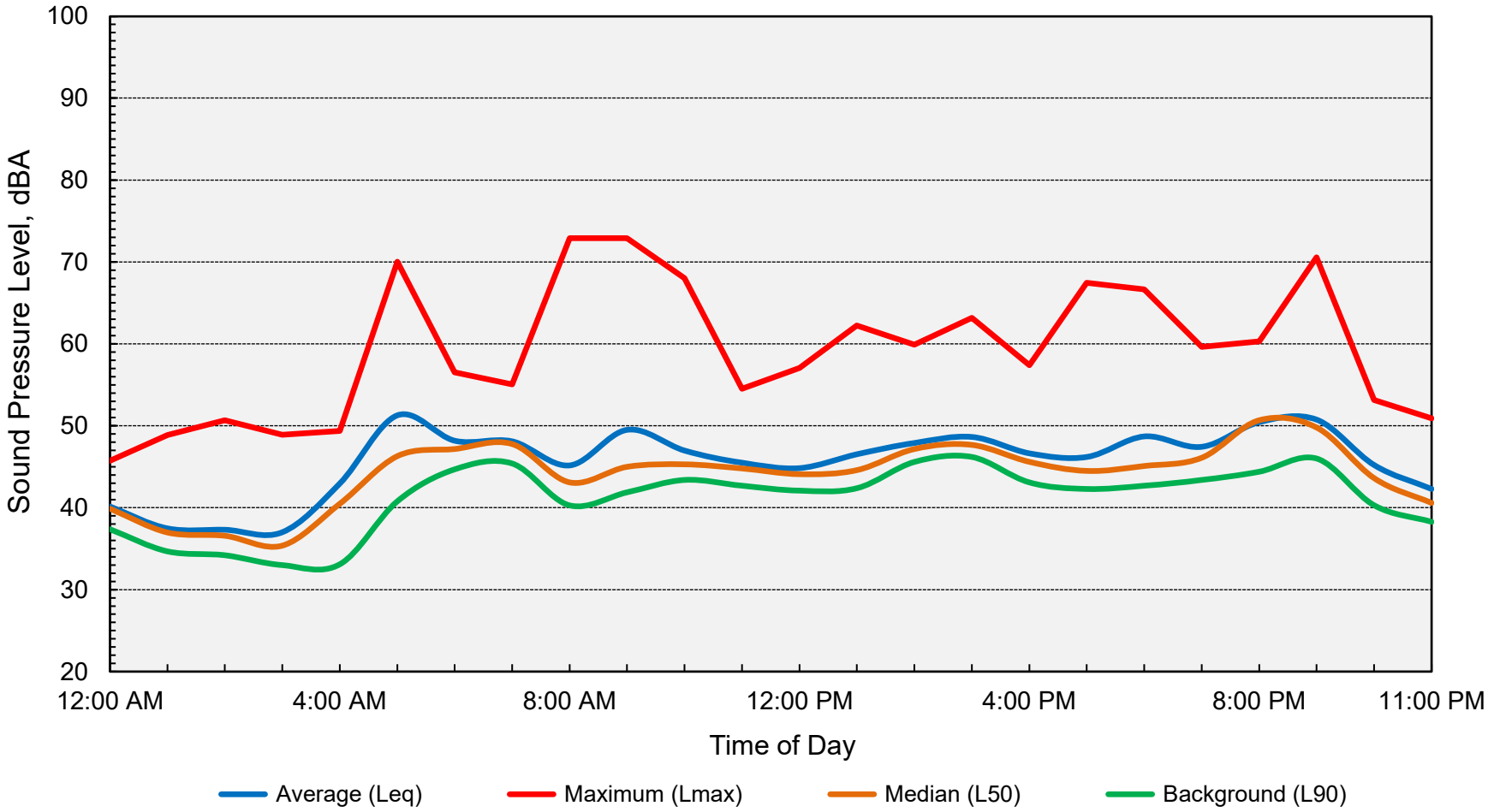
Appendix D-2
Long-Term Ambient Noise Monitoring Results - Site 1
Shiloh Resort & Casino - Sonoma County, California
Saturday, April 30, 2022



Computed DNL = 52 dB

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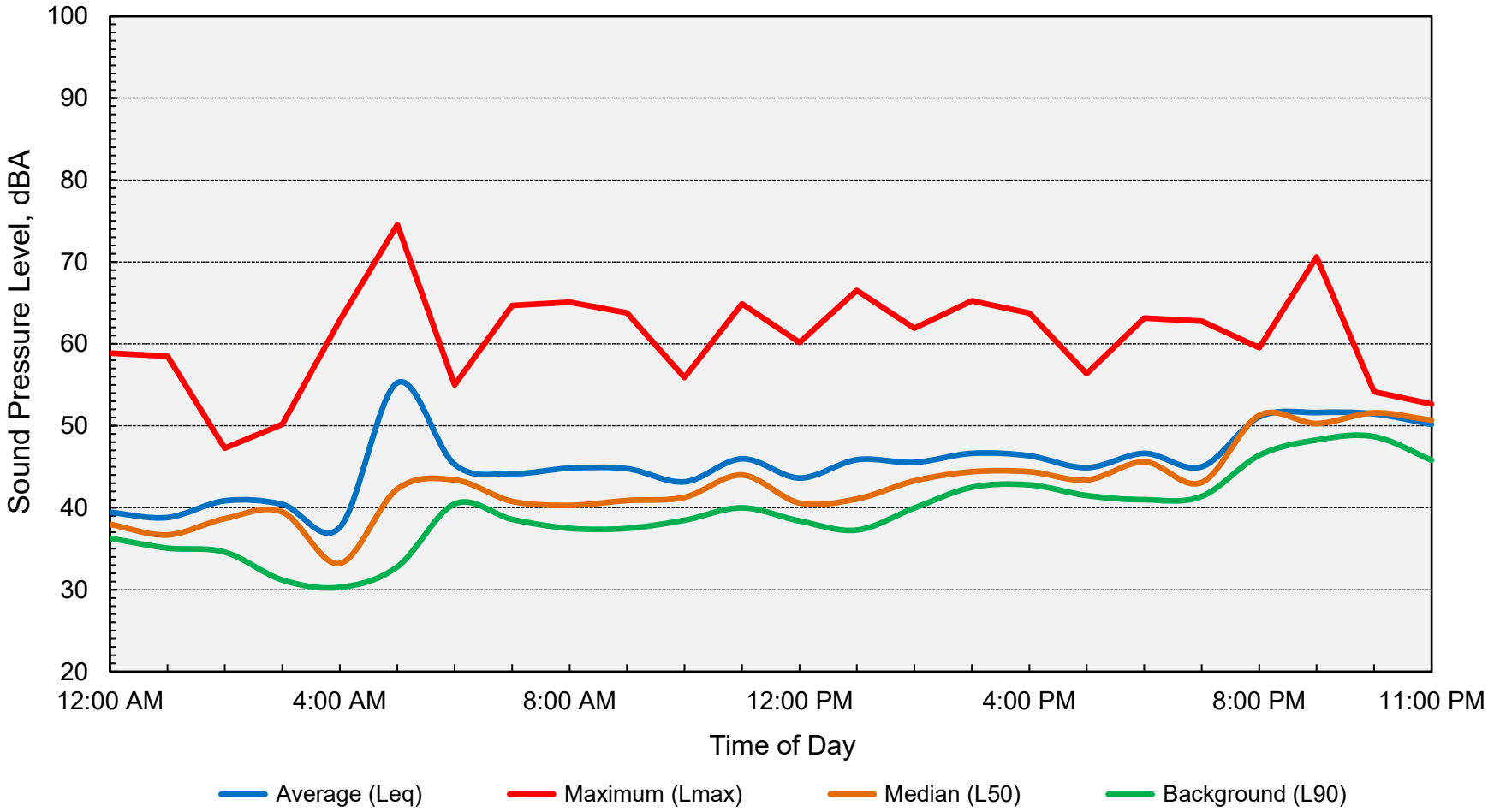
Appendix D-3
Long-Term Ambient Noise Monitoring Results - Site 1
Shiloh Resort & Casino - Sonoma County, California
Sunday, May 1, 2022



Computed DNL = 55 dB

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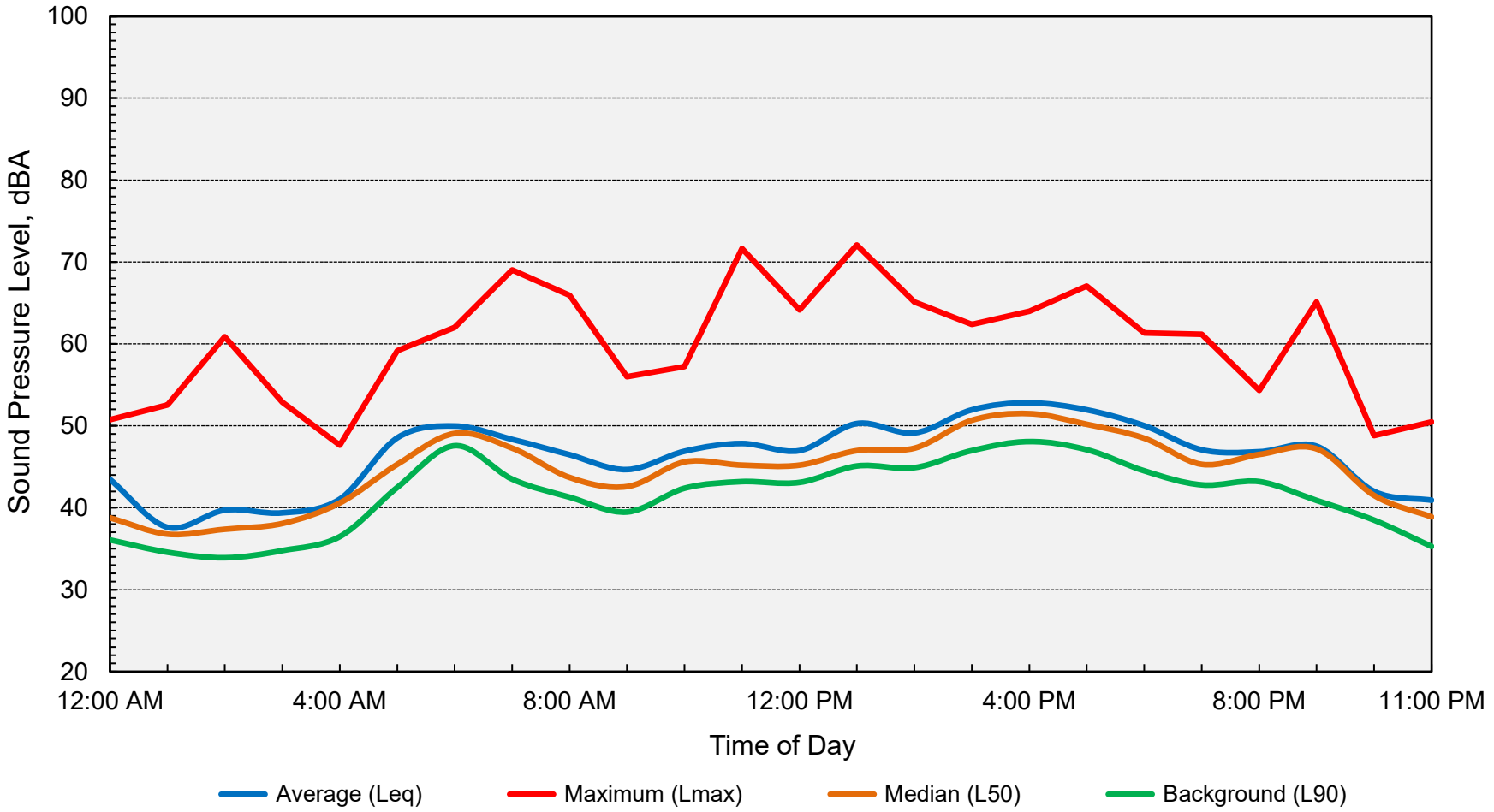
Appendix D-4
Long-Term Ambient Noise Monitoring Results - Site 1
Shiloh Resort & Casino - Sonoma County, California
Monday, May 2, 2022



Computed DNL = 52 dB

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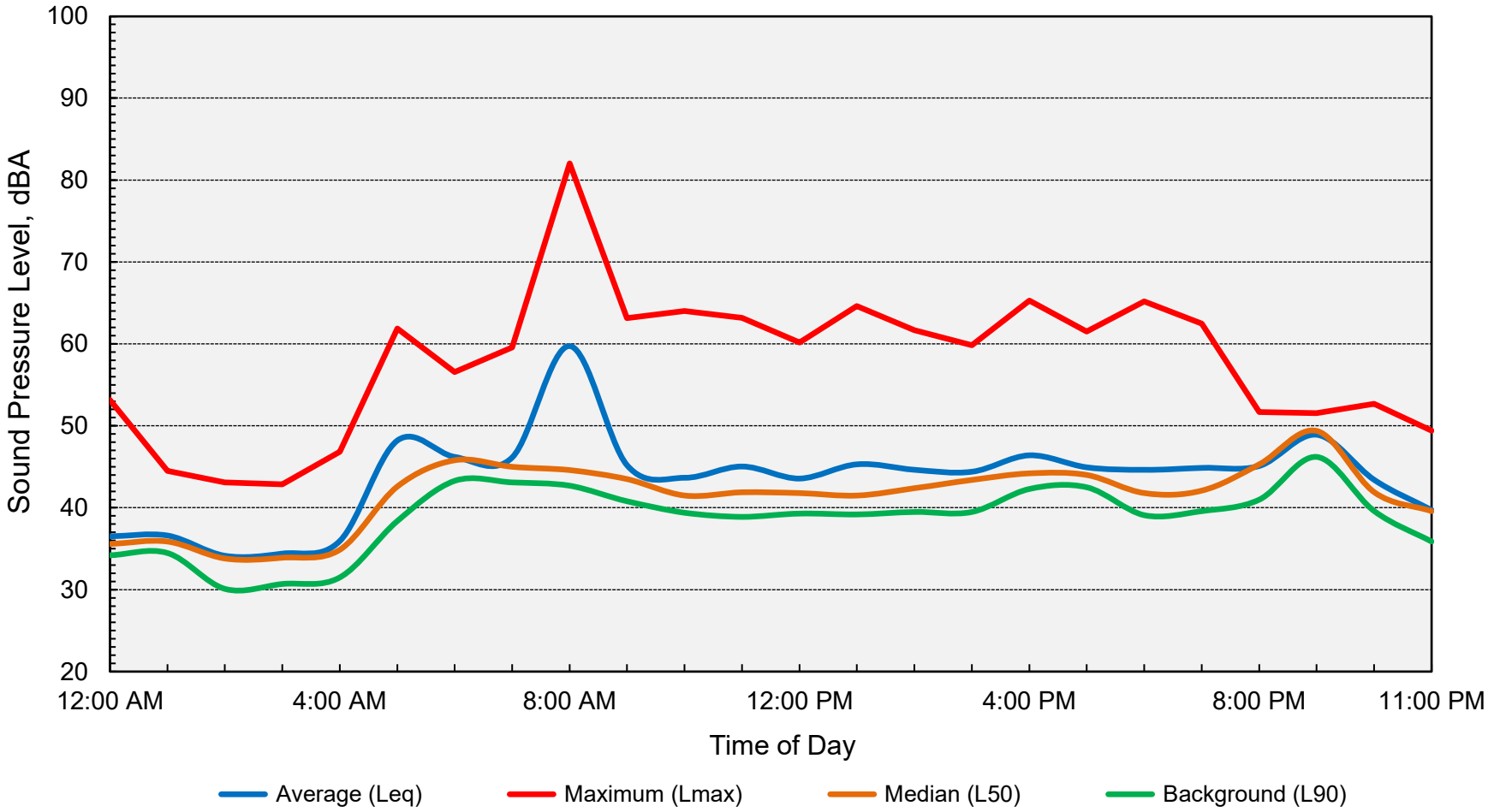
Appendix D-5
Long-Term Ambient Noise Monitoring Results - Site 1
Shiloh Resort & Casino - Sonoma County, California
Tuesday, May 3, 2022



Computed DNL = 51 dB

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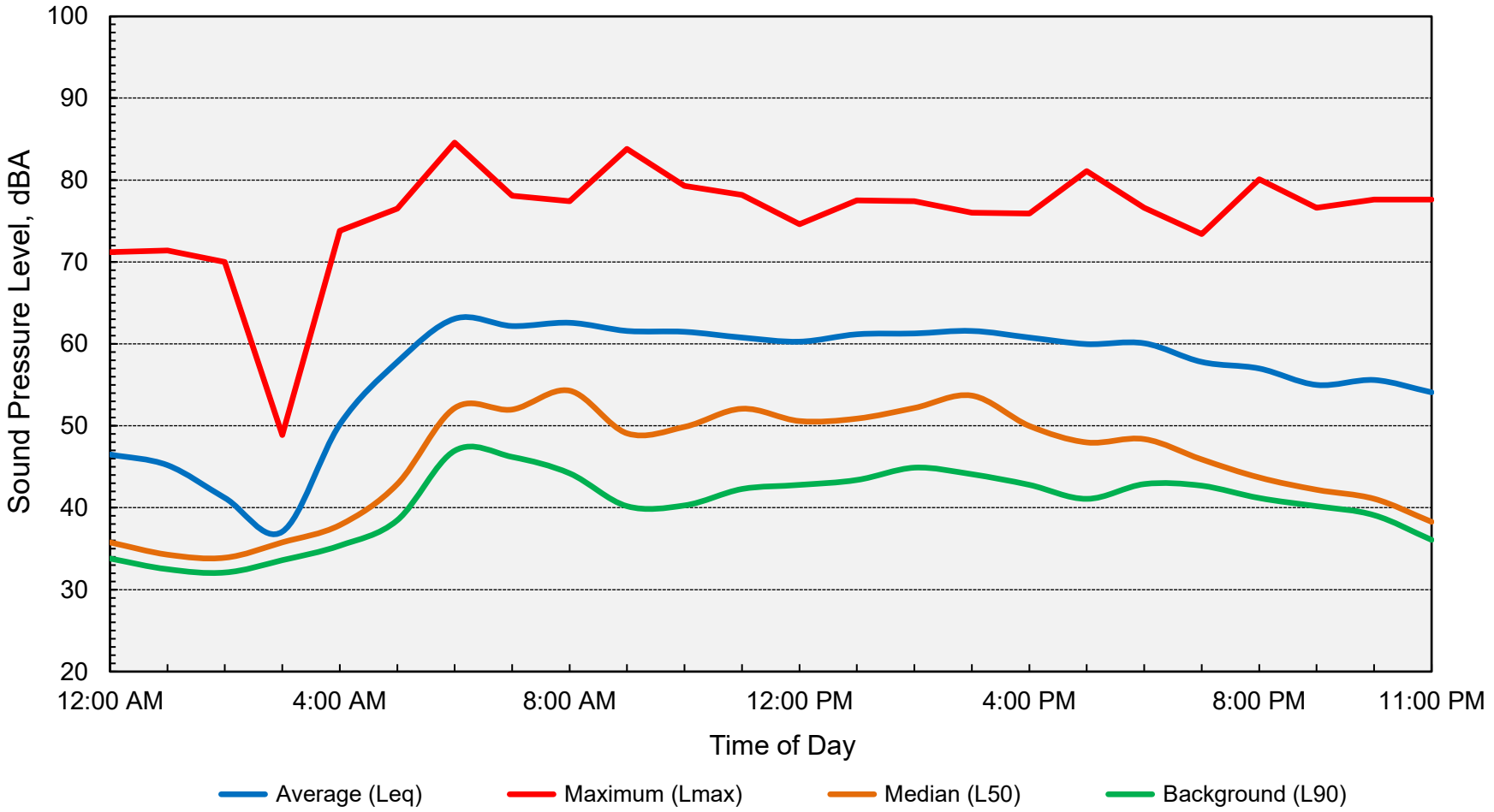
Appendix D-6
Long-Term Ambient Noise Monitoring Results - Site 2
Shiloh Resort & Casino - Sonoma County, California
Friday, April 29, 2022



Computed DNL = 63 dB

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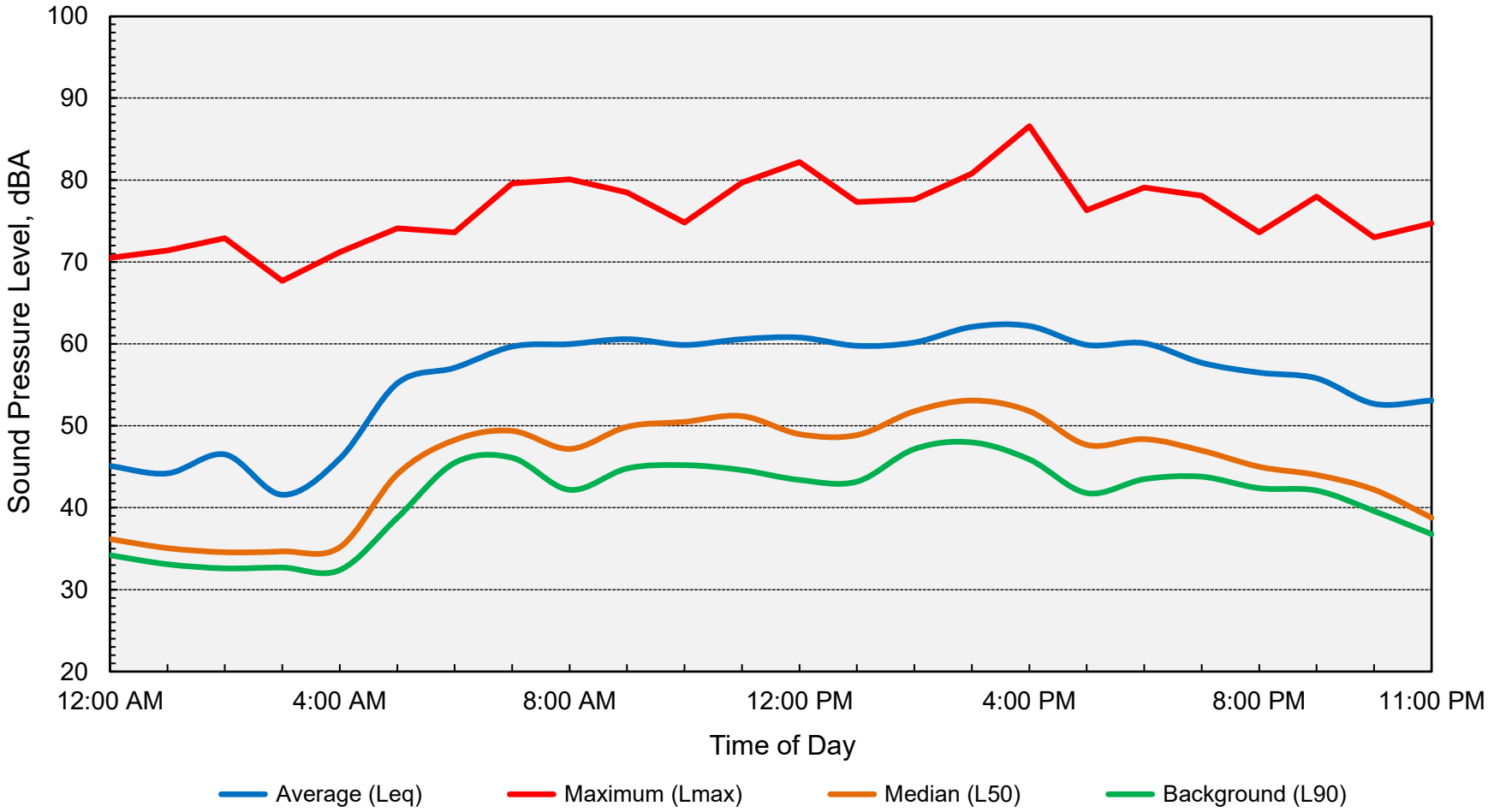
Appendix D-7
Long-Term Ambient Noise Monitoring Results - Site 2
Shiloh Resort & Casino - Sonoma County, California
Saturday, April 30, 2022



Computed DNL = 61 dB

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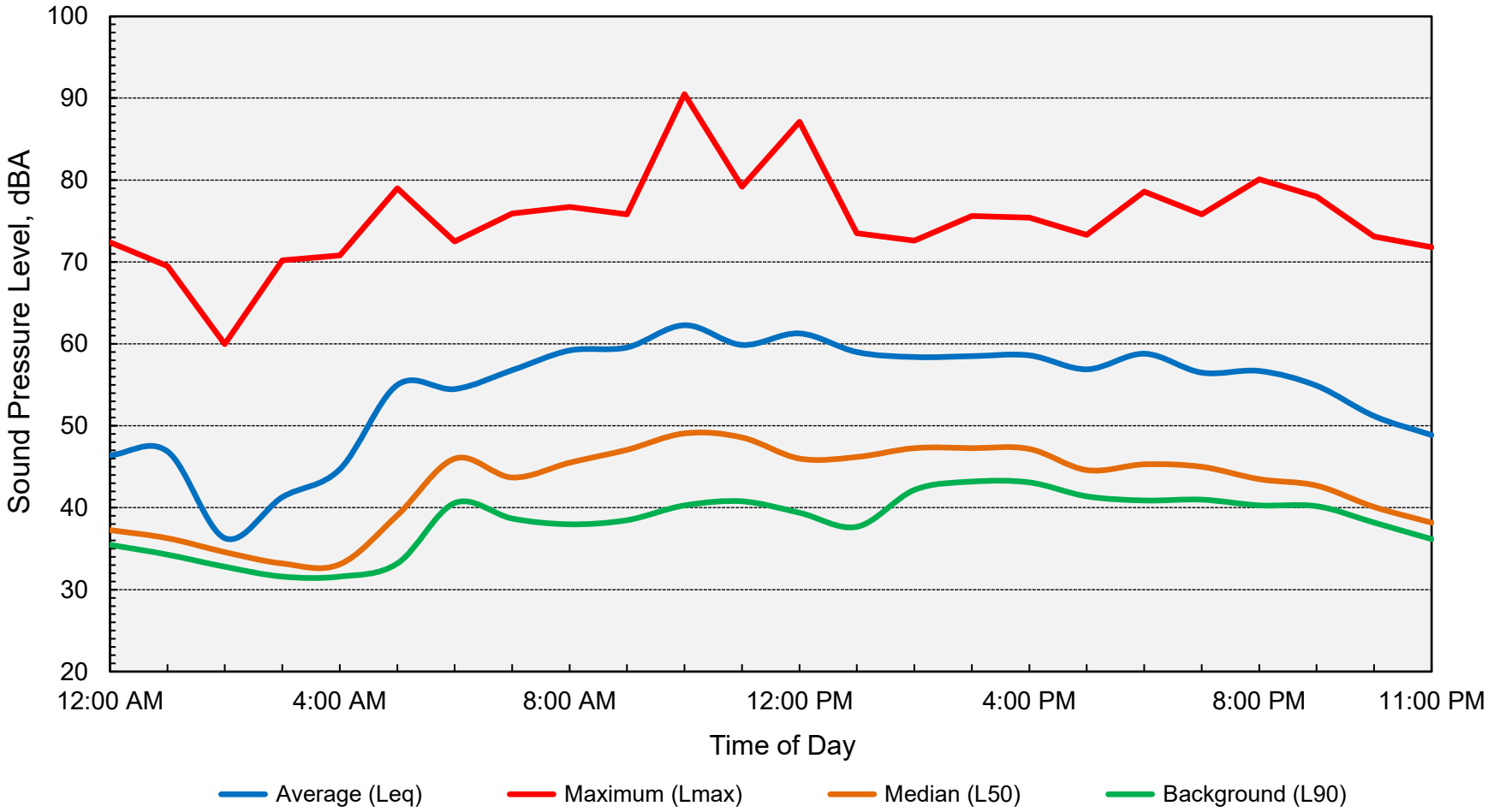
Appendix D-8
Long-Term Ambient Noise Monitoring Results - Site 2
Shiloh Resort & Casino - Sonoma County, California
Sunday, May 1, 2022



Computed DNL = 59 dB

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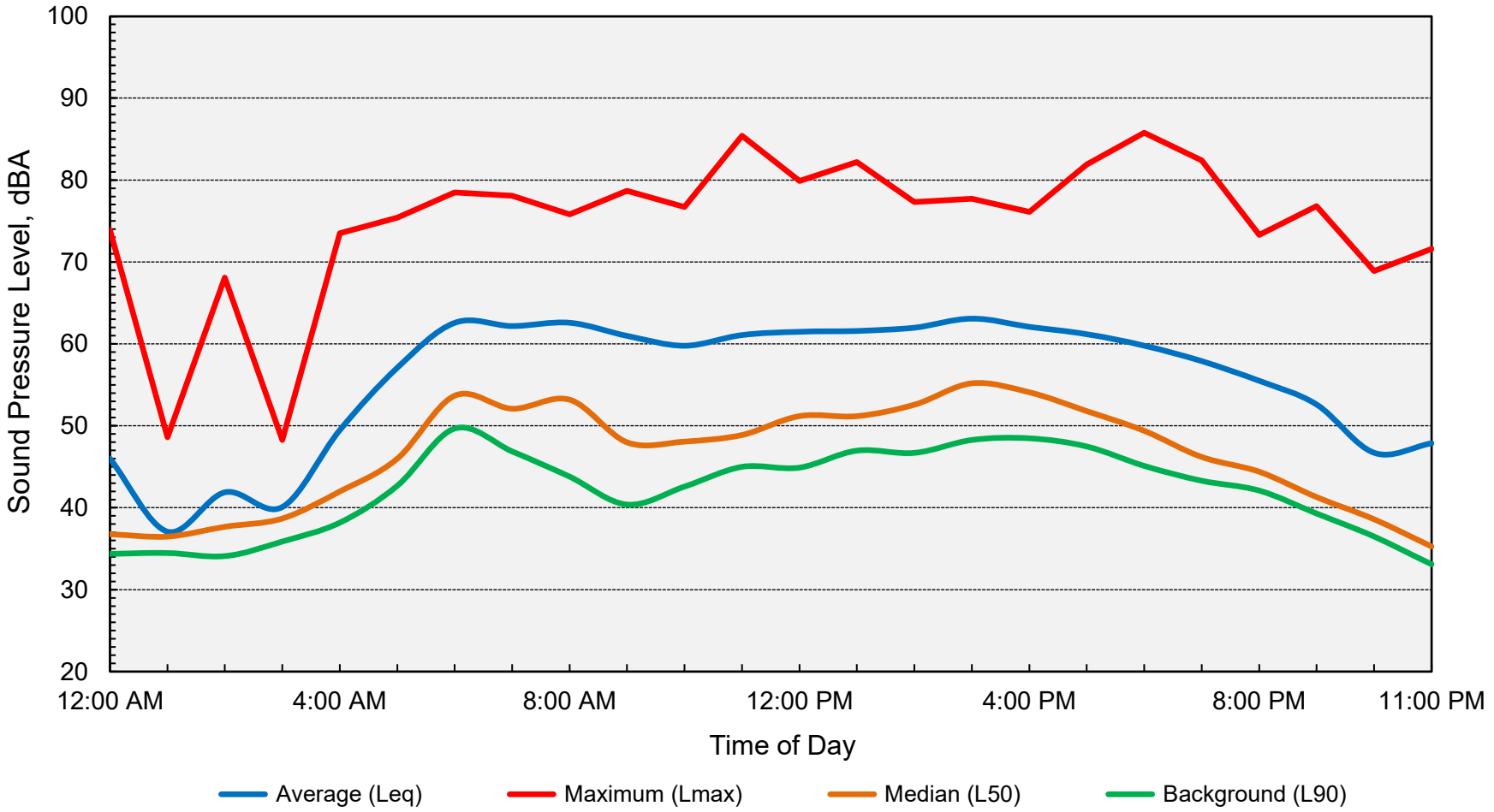
Appendix D-9
Long-Term Ambient Noise Monitoring Results - Site 2
Shiloh Resort & Casino - Sonoma County, California
Monday, May 2, 2022



Computed DNL = 63 dB

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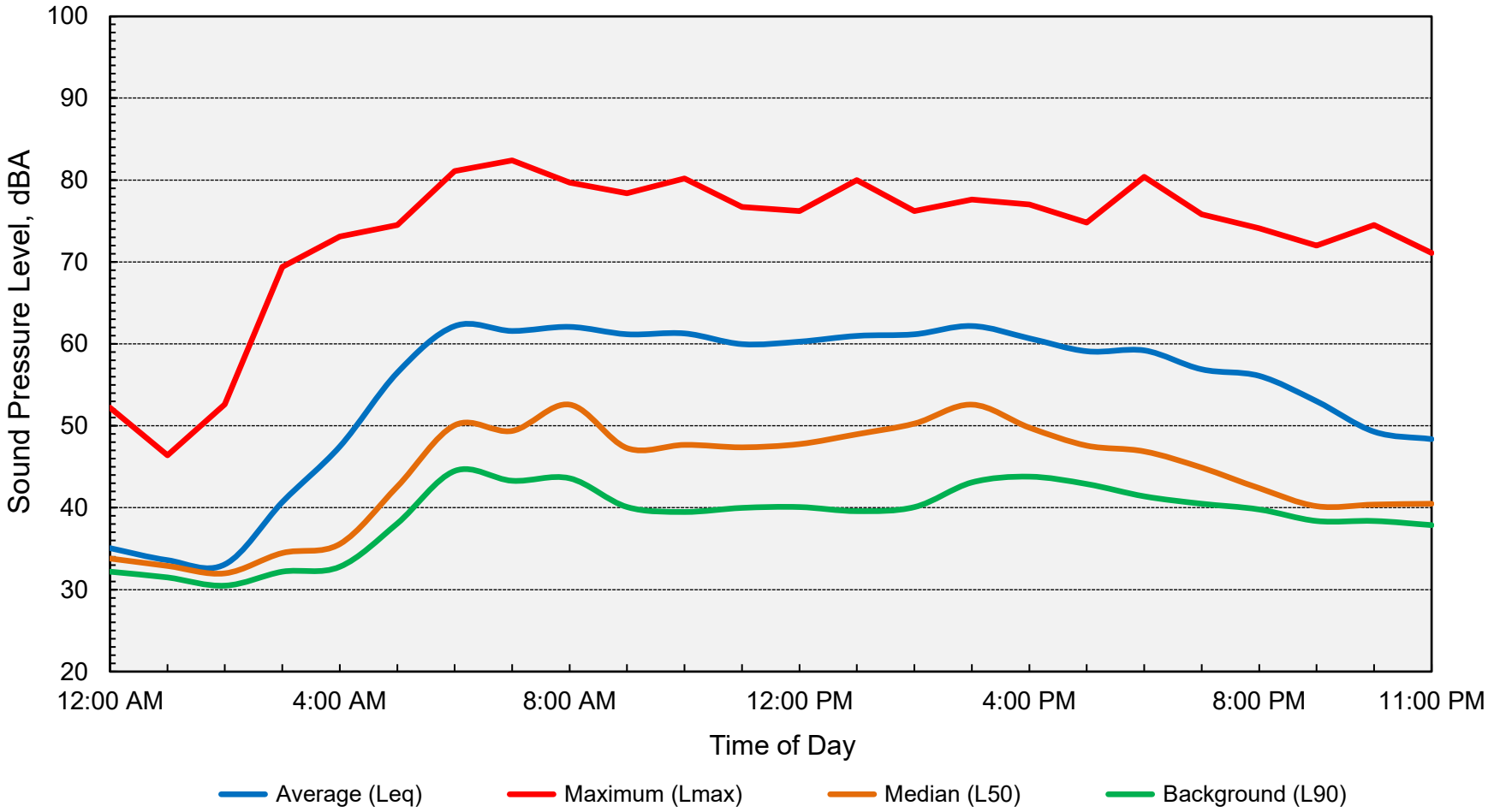
Appendix D-10
Long-Term Ambient Noise Monitoring Results - Site 2
Shiloh Resort & Casino - Sonoma County, California
Tuesday, May 3, 2022



Computed DNL = 62 dB

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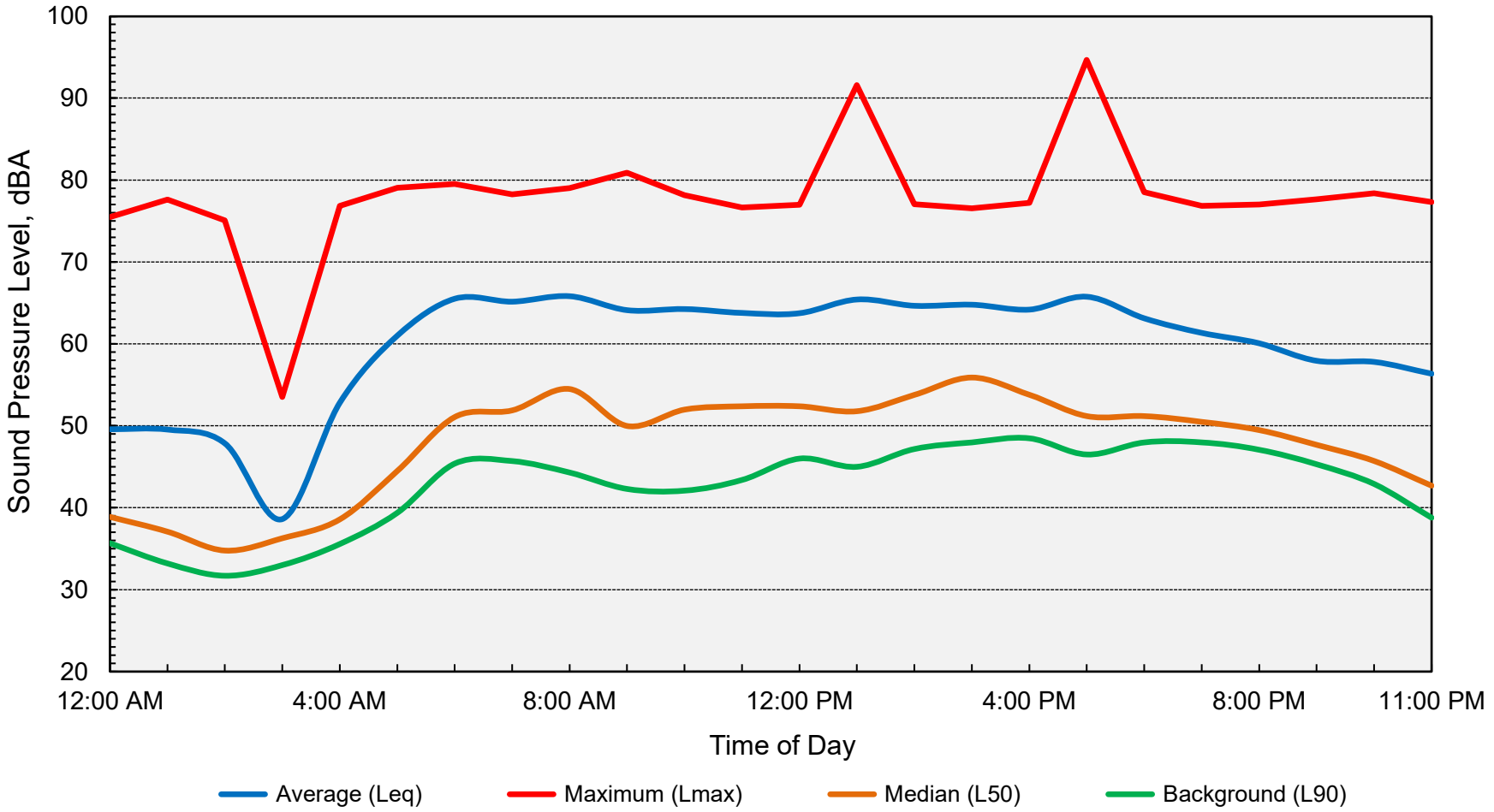
Appendix D-11
Long-Term Ambient Noise Monitoring Results - Site 3
Shiloh Resort & Casino - Sonoma County, California
Friday, April 29, 2022



Computed DNL = 66 dB

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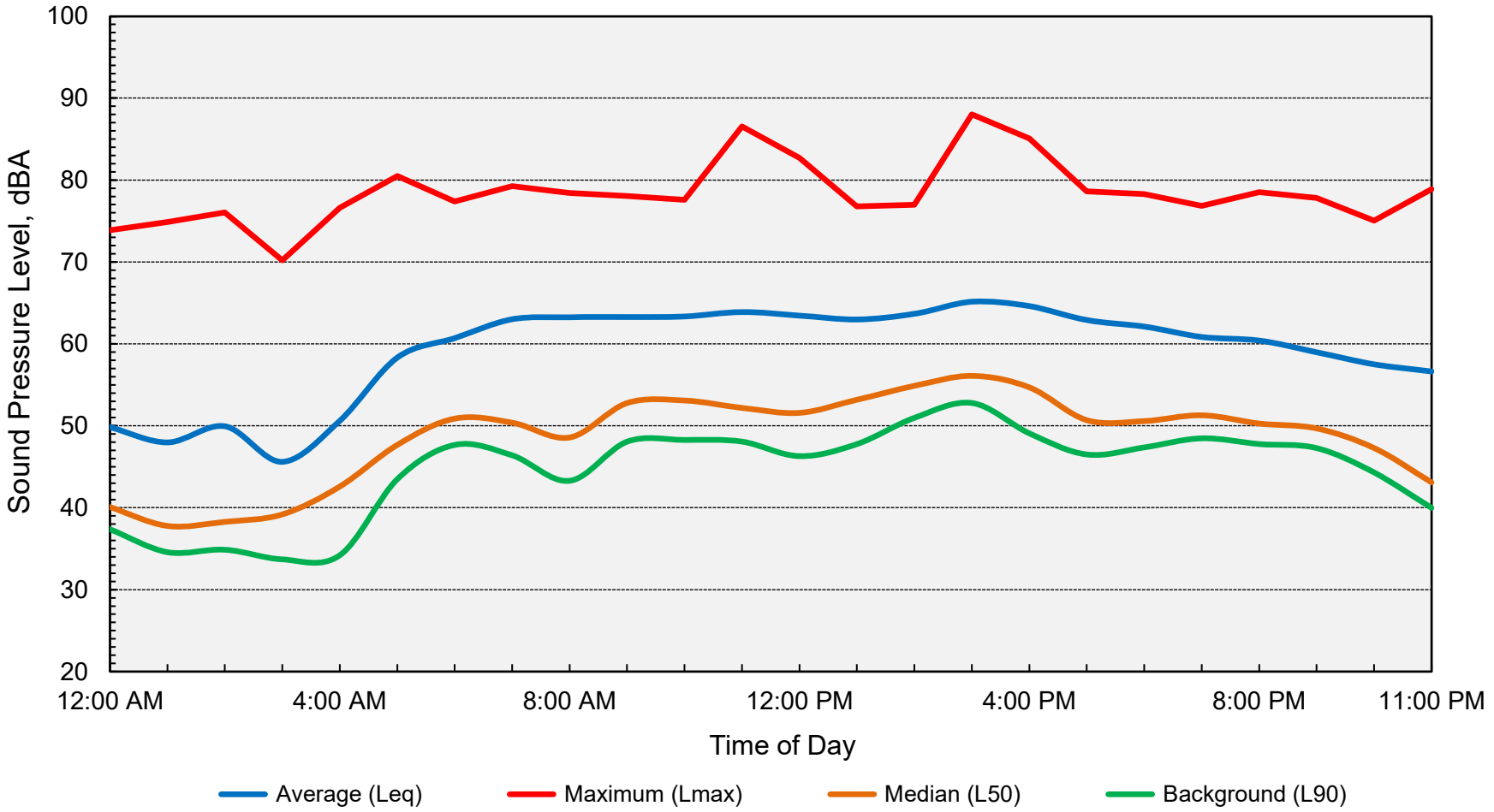
Appendix D-12
Long-Term Ambient Noise Monitoring Results - Site 3
Shiloh Resort & Casino - Sonoma County, California
Saturday, April 30, 2022



Computed DNL = 64 dB

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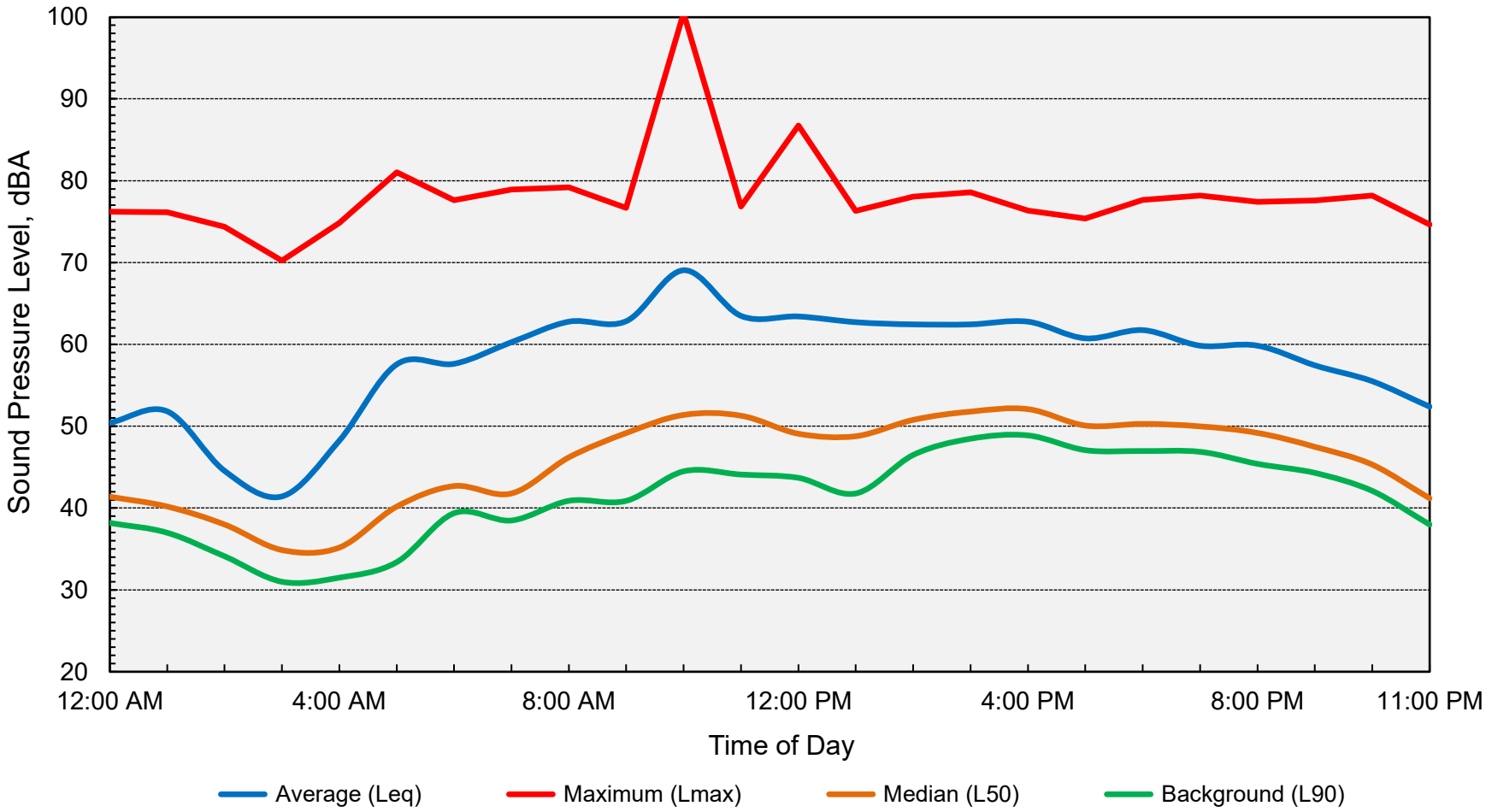
Appendix D-13
Long-Term Ambient Noise Monitoring Results - Site 3
Shiloh Resort & Casino - Sonoma County, California
Sunday, May 1, 2022



Computed DNL = 63 dB

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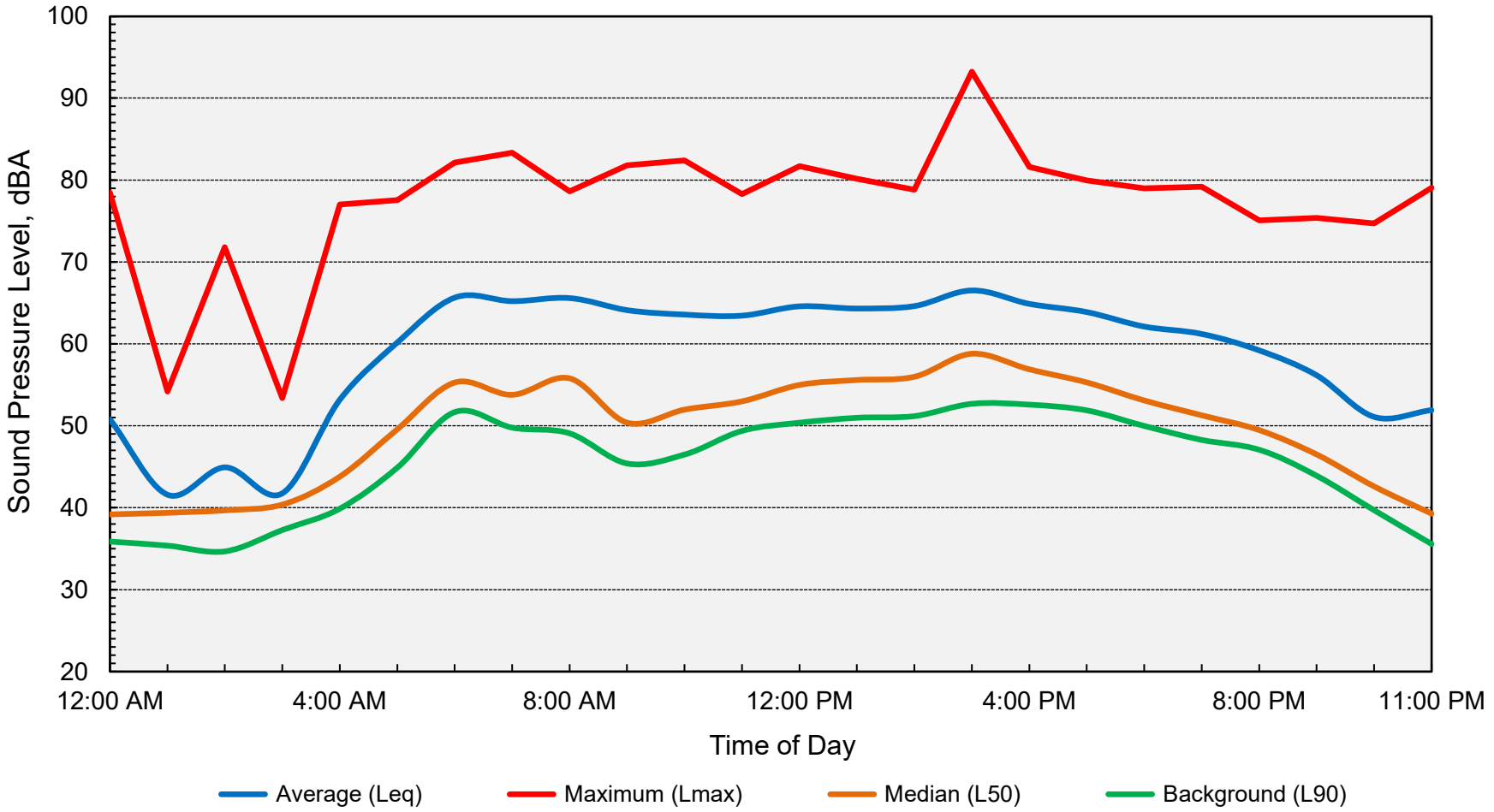
Appendix D-14
Long-Term Ambient Noise Monitoring Results - Site 3
Shiloh Resort & Casino - Sonoma County, California
Monday, May 2, 2022



Computed DNL = 66 dB

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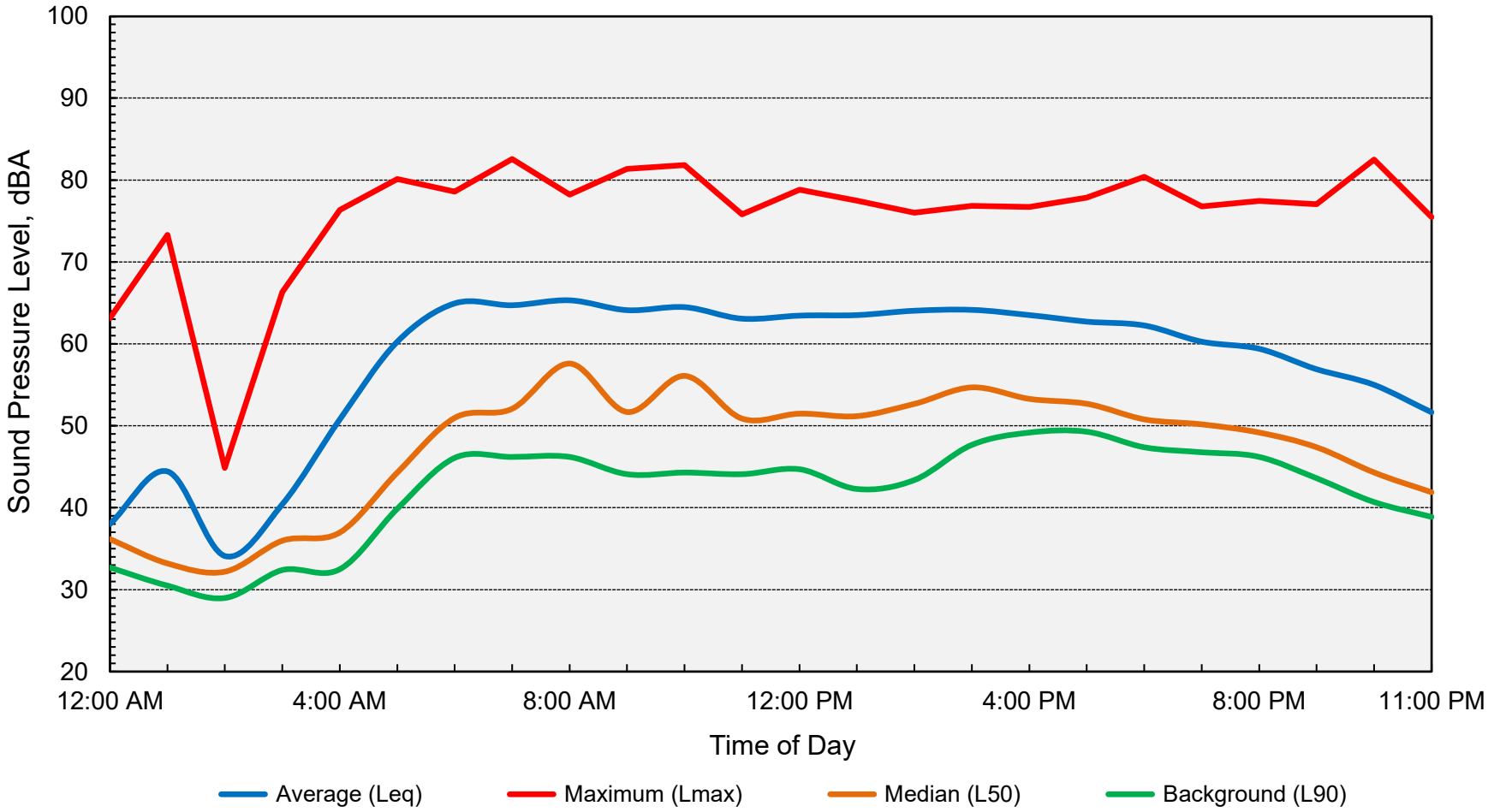
Appendix D-15
Long-Term Ambient Noise Monitoring Results - Site 3
Shiloh Resort & Casino - Sonoma County, California
Tuesday, May 3, 2022



Computed DNL = 65 dB

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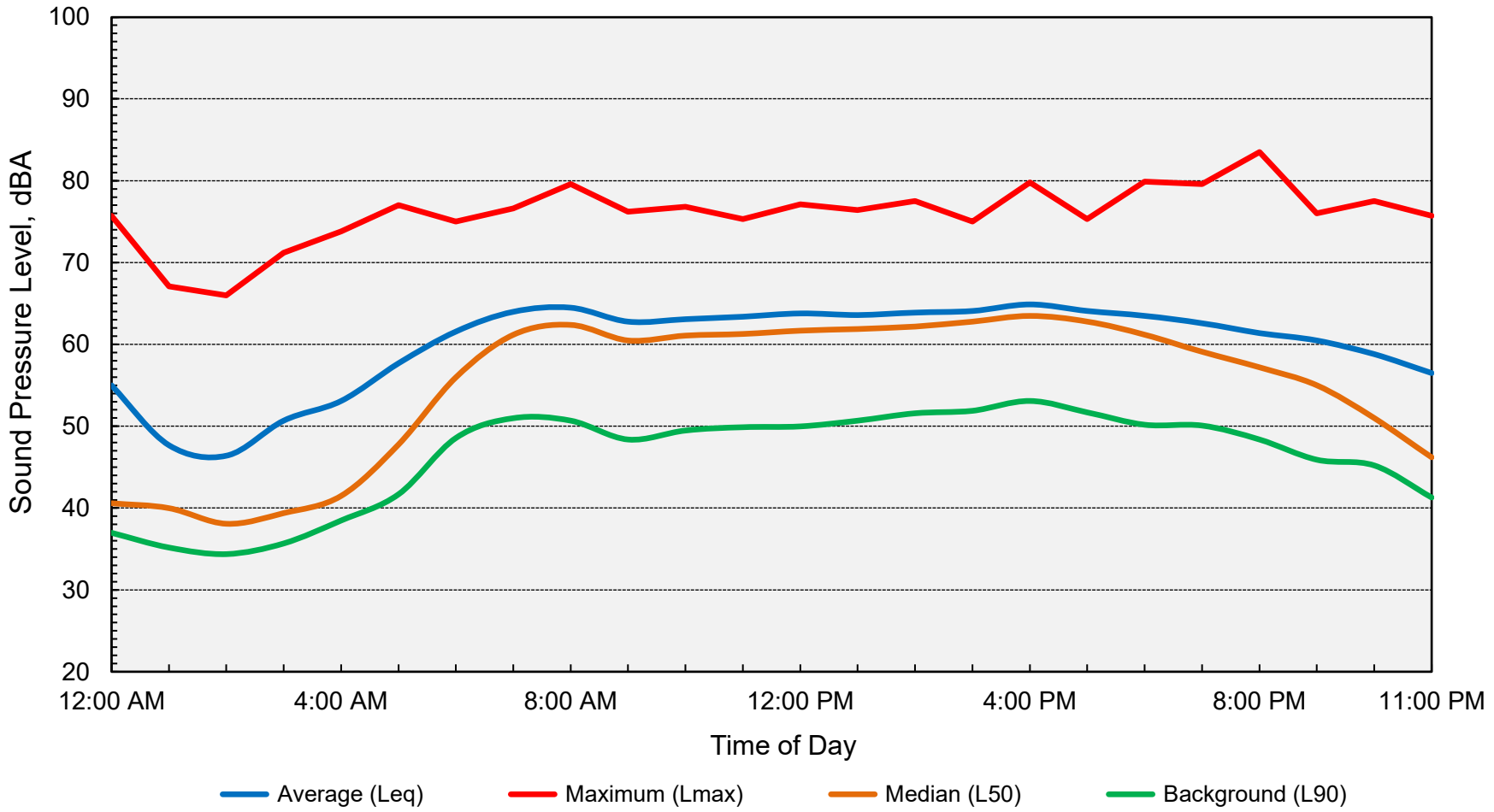
Appendix D-16
Long-Term Ambient Noise Monitoring Results - Site 4
Shiloh Resort & Casino - Sonoma County, California
Friday, April 29, 2022



Computed DNL = 65 dB

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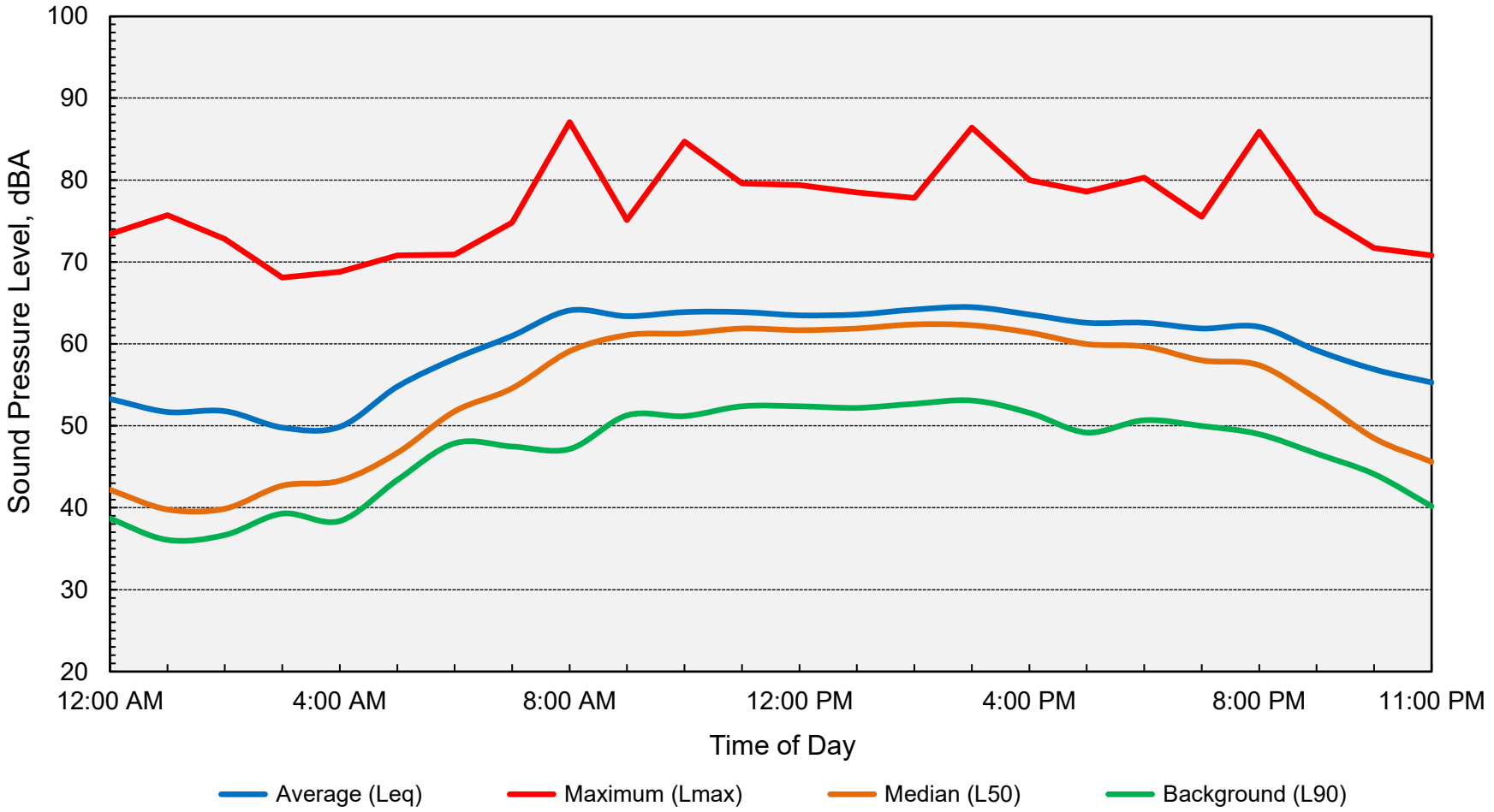
Appendix D-17
Long-Term Ambient Noise Monitoring Results - Site 4
Shiloh Resort & Casino - Sonoma County, California
Saturday, April 30, 2022



Computed DNL = 64 dB

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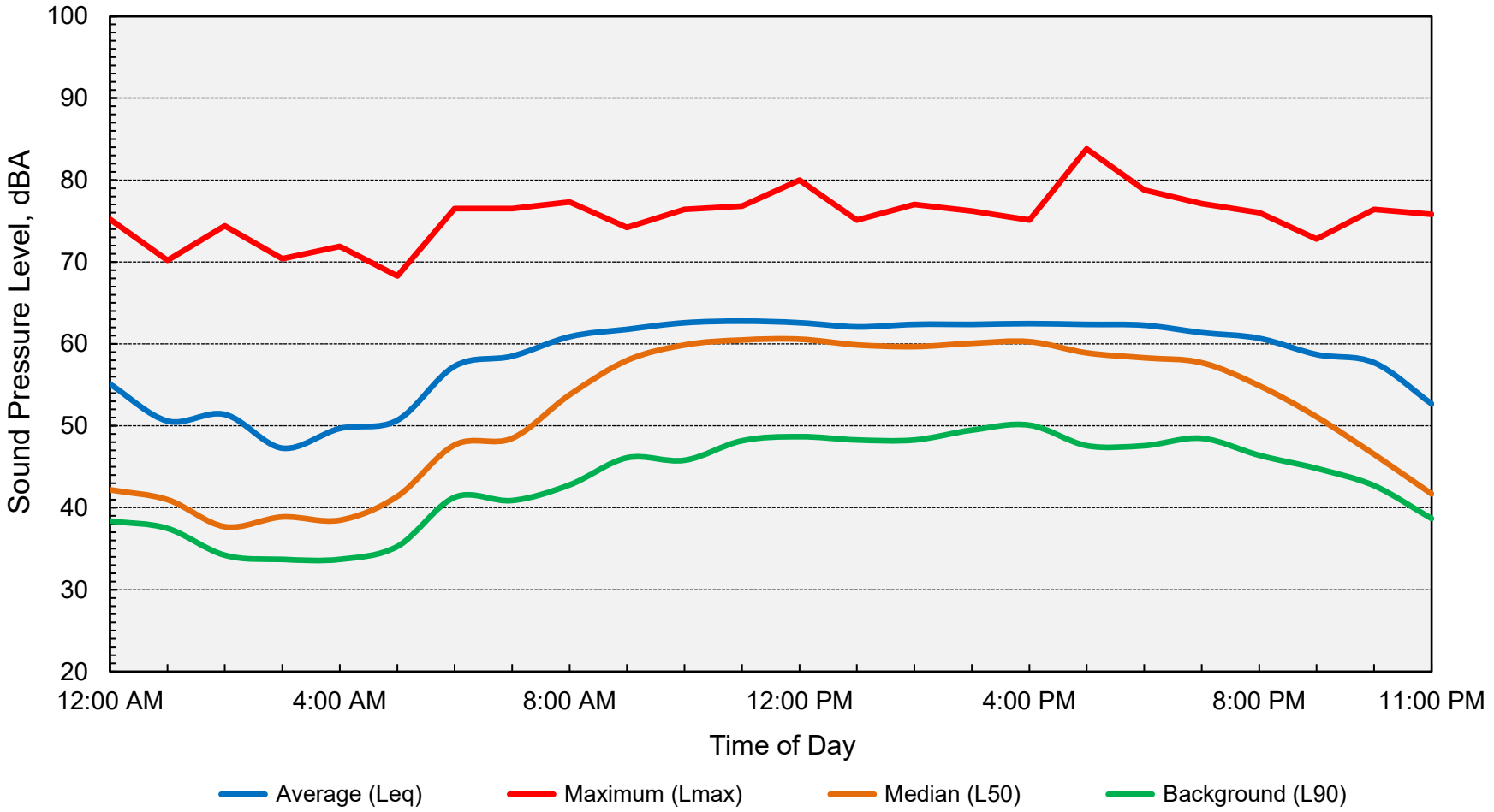
Appendix D-18
Long-Term Ambient Noise Monitoring Results - Site 4
Shiloh Resort & Casino - Sonoma County, California
Sunday, May 1, 2022



Computed DNL = 63 dB

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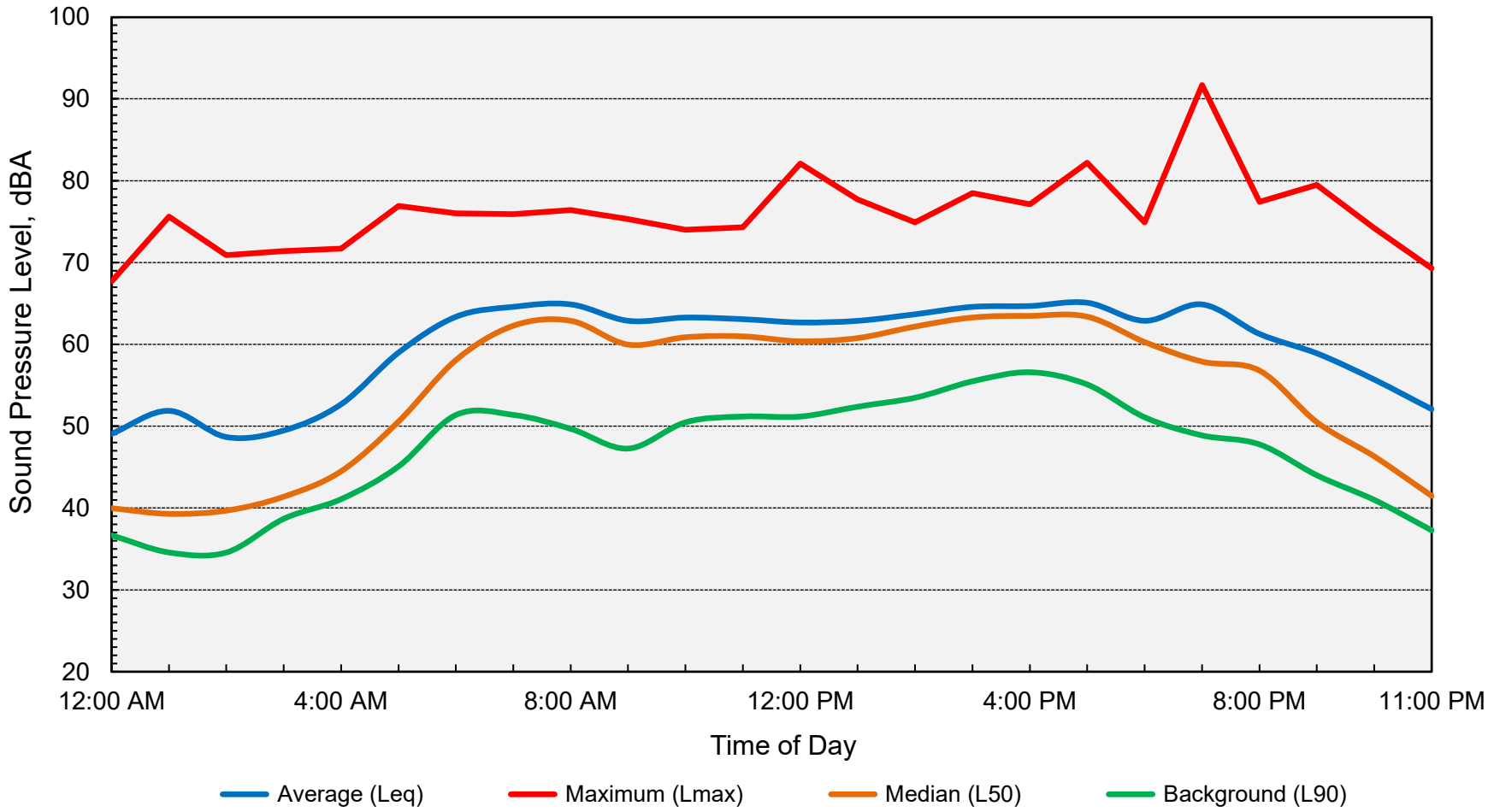
Appendix D-19
Long-Term Ambient Noise Monitoring Results - Site 4
Shiloh Resort & Casino - Sonoma County, California
Monday, May 2, 2022



Computed DNL = 65 dB

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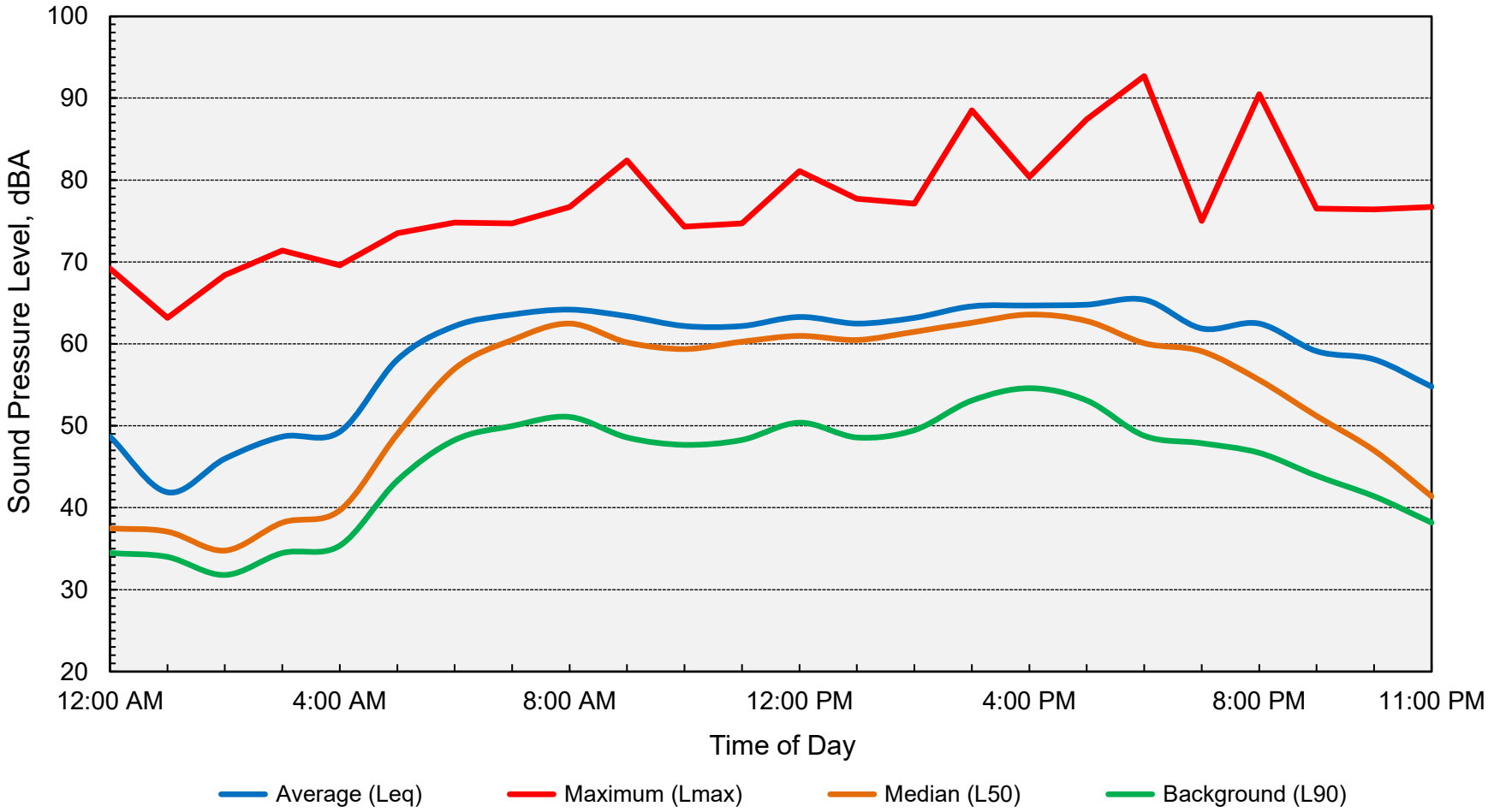
Appendix D-20
Long-Term Ambient Noise Monitoring Results - Site 4
Shiloh Resort & Casino - Sonoma County, California
Tuesday, May 3, 2022



Computed DNL = 65 dB

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Appendix E-1

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

Data Input Sheet

Project #: 2022-051
Description: Existing
Ldn/CNEL: Ldn
Hard/Soft: Soft

		Segment Description						% Med.	% Hvy.			Offset
Segment	Roadway Name	From	To	ADT	Day %	Eve %	Night %	Trucks	Trucks	Speed	Distance	(dB)
1	Shiloh Rd	Conde Ln	Caletti Ave	13,200	80		20	2	1	45	420	
2	Shiloh Rd	Caletti Ave	US-101 SB Ramps	15,465	80		20	2	1	45	100	
3	Shiloh Rd	US-101 SB Ramps	US-101 NB Ramps	12,610	80		20	2	1	45	100	
4	Shiloh Rd	US-101 NB Ramps	Hembree Ln	14,120	80		20	2	1	45	100	
5	Shiloh Rd	Hembree Ln	Old Redwood Hwy	7,510	80		20	2	1	45	50	
6	Shiloh Rd	Old Redwood Hwy	Gridley Dr	2,470	86		14	2	1	45	50	
7	Shiloh Rd	Gridley Dr	Project Entrance E	2,140	83		17	2	1	45	50	
8	Shiloh Rd	Project Entrance E	E of Project Entrance	1,920	83		17	2	1	45	50	
9	Old Redwood Hwy	North of Shiloh Rd	Shiloh Rd	8,230	80		20	2	1	50	50	
10	Old Redwood Hwy	Shiloh Rd	Project Entrance	7,345	89		11	2	1	50	60	
11	Old Redwood Hwy	Project Entrance	S of Project Entrance	7,325	89		11	2	1	50	65	

Appendix E-2

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

Data Input Sheet

Project #: 2022-051
Description: Baseline Opening Year 2028
Ldn/CNEL: Ldn
Hard/Soft: Soft

		Segment Description						% Med.	% Hvy.			Offset
Segment	Roadway Name	From	To	ADT	Day %	Eve %	Night %	Trucks	Trucks	Speed	Distance	(dB)
1	Shiloh Rd	Conde Ln	Caletti Ave	15,025	80	0	20	2	1	45	420	0
2	Shiloh Rd	Caletti Ave	US-101 SB Ramps	18,090	80	0	20	2	1	45	100	0
3	Shiloh Rd	US-101 SB Ramps	US-101 NB Ramps	16,920	80	0	20	2	1	45	100	0
4	Shiloh Rd	US-101 NB Ramps	Hembree Ln	17,955	80	0	20	2	1	45	100	0
5	Shiloh Rd	Hembree Ln	Old Redwood Hwy	9,855	80	0	20	2	1	45	50	0
6	Shiloh Rd	Old Redwood Hwy	Gridley Dr	2,860	86	0	14	2	1	45	50	0
7	Shiloh Rd	Gridley Dr	Project Entrance E	2,435	83	0	17	2	1	45	50	0
8	Shiloh Rd	Project Entrance E	E of Project Entrance	2,180	83	0	17	2	1	45	50	0
9	Old Redwood Hwy	North of Shiloh Rd	Shiloh Rd	9,750	80	0	20	2	1	50	50	0
10	Old Redwood Hwy	Shiloh Rd	Project Entrance	8,865	89	0	11	2	1	50	60	0
11	Old Redwood Hwy	Project Entrance	S of Project Entrance	8,340	89	0	11	2	1	50	65	0

Appendix E-3

FHWA-RD-77-108 Highway Traffic Noise Prediction Model
Data Input Sheet

Project #: 2022-051
Description: Baseline Opening Year 2028 + Project Alternative A
Ldn/CNEL: Ldn
Hard/Soft: Soft

		Segment Description										
Segment	Roadway Name	From	To	ADT	Day %	Eve %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)
1	Shiloh Rd	Conde Ln	Caletti Ave	15,445	80	0	20	2	1	45	420	0
2	Shiloh Rd	Caletti Ave	US-101 SB Ramps	18,510	80	0	20	2	1	45	100	0
3	Shiloh Rd	US-101 SB Ramps	US-101 NB Ramps	20,995	80	0	20	2	1	45	100	0
4	Shiloh Rd	US-101 NB Ramps	Hembree Ln	24,255	80	0	20	2	1	45	100	0
5	Shiloh Rd	Hembree Ln	Old Redwood Hwy	16,155	80	0	20	2	1	45	50	0
6	Shiloh Rd	Old Redwood Hwy	Gridley Dr	8,652	86	0	14	2	1	45	50	0
7	Shiloh Rd	Gridley Dr	Project Entrance E	6,800	83	0	17	2	1	45	50	0
8	Shiloh Rd	Project Entrance E	E of Project Entrance	2,848	83	0	17	2	1	45	50	0
9	Old Redwood Hwy	North of Shiloh Rd	Shiloh Rd	10,585	80	0	20	2	1	50	50	0
10	Old Redwood Hwy	Shiloh Rd	Project Entrance	10,208	89	0	11	2	1	50	60	0
11	Old Redwood Hwy	Project Entrance	S of Project Entrance	9,175	89	0	11	2	1	50	65	0

Appendix E-4

FHWA-RD-77-108 Highway Traffic Noise Prediction Model
Data Input Sheet

Project #: 2022-051
Description: Baseline Opening Year 2028 + Project Alternative B
Ldn/CNEL: Ldn
Hard/Soft: Soft

		Segment Description										
Segment	Roadway Name	From	To	ADT	Day %	Eve %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)
1	Shiloh Rd	Conde Ln	Caletti Ave	14,300	80	0	20	2	1	45	420	0
2	Shiloh Rd	Caletti Ave	US-101 SB Ramps	17,225	80	0	20	2	1	45	100	0
3	Shiloh Rd	US-101 SB Ramps	US-101 NB Ramps	19,215	80	0	20	2	1	45	100	0
4	Shiloh Rd	US-101 NB Ramps	Hembree Ln	21,805	80	0	20	2	1	45	100	0
5	Shiloh Rd	Hembree Ln	Old Redwood Hwy	14,250	80	0	20	2	1	45	50	0
6	Shiloh Rd	Old Redwood Hwy	Gridley Dr	7,291	86	0	14	2	1	45	50	0
7	Shiloh Rd	Gridley Dr	Project Entrance E	5,755	83	0	17	2	1	45	50	0
8	Shiloh Rd	Project Entrance E	E of Project Entrance	2,566	83	0	17	2	1	45	50	0
9	Old Redwood Hwy	North of Shiloh Rd	Shiloh Rd	9,730	80	0	20	2	1	50	50	0
10	Old Redwood Hwy	Shiloh Rd	Project Entrance	9,294	89	0	11	2	1	50	60	0
11	Old Redwood Hwy	Project Entrance	S of Project Entrance	8,360	89	0	11	2	1	50	65	0

Appendix E-5

FHWA-RD-77-108 Highway Traffic Noise Prediction Model
Data Input Sheet

Project #: 2022-051
Description: Baseline Opening Year 2028 + Project Alternative C
Ldn/CNEL: Ldn
Hard/Soft: Soft

		Segment Description						% Med.	% Hvy.			Offset
Segment	Roadway Name	From	To	ADT	Day %	Eve %	Night %	Trucks	Trucks	Speed	Distance	(dB)
1	Shiloh Rd	Conde Ln	Caletti Ave	15,115	80	0	20	2	1	45	420	0
2	Shiloh Rd	Caletti Ave	US-101 SB Ramps	18,180	80	0	20	2	1	45	100	0
3	Shiloh Rd	US-101 SB Ramps	US-101 NB Ramps	17,805	80	0	20	2	1	45	100	0
4	Shiloh Rd	US-101 NB Ramps	Hembree Ln	19,275	80	0	20	2	1	45	100	0
5	Shiloh Rd	Hembree Ln	Old Redwood Hwy	11,175	80	0	20	2	1	45	50	0
6	Shiloh Rd	Old Redwood Hwy	Gridley Dr	4,070	86	0	14	2	1	45	50	0
7	Shiloh Rd	Gridley Dr	Project Entrance E	3,347	83	0	17	2	1	45	50	0
8	Shiloh Rd	Project Entrance E	E of Project Entrance	2,319	83	0	17	2	1	45	50	0
9	Old Redwood Hwy	North of Shiloh Rd	Shiloh Rd	9,920	80	0	20	2	1	50	50	0
10	Old Redwood Hwy	Shiloh Rd	Project Entrance	9,145	89	0	11	2	1	50	60	0
11	Old Redwood Hwy	Project Entrance	S of Project Entrance	8,510	89	0	11	2	1	50	65	0

Appendix E-6

FHWA-RD-77-108 Highway Traffic Noise Prediction Model
Data Input Sheet

Project #: 2022-051
Description: Cumulative 2040
Ldn/CNEL: Ldn
Hard/Soft: Soft

		Segment Description										
Segment	Roadway Name	From	To	ADT	Day %	Eve %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)
1	Shiloh Rd	Conde Ln	Caletti Ave	22,225	80	0	20	2	1	45	420	0
2	Shiloh Rd	Caletti Ave	US-101 SB Ramps	25,040	80	0	20	2	1	45	100	0
3	Shiloh Rd	US-101 SB Ramps	US-101 NB Ramps	25,915	80	0	20	2	1	45	100	0
4	Shiloh Rd	US-101 NB Ramps	Hembree Ln	27,065	80	0	20	2	1	45	100	0
5	Shiloh Rd	Hembree Ln	Old Redwood Hwy	19,135	80	0	20	2	1	45	50	0
6	Shiloh Rd	Old Redwood Hwy	Gridley Dr	3,960	86	0	14	2	1	45	50	0
7	Shiloh Rd	Gridley Dr	Project Entrance E	3,160	83	0	17	2	1	45	50	0
8	Shiloh Rd	Project Entrance E	E of Project Entrance	2,840	83	0	17	2	1	45	50	0
9	Old Redwood Hwy	North of Shiloh Rd	Shiloh Rd	16,430	80	0	20	2	1	50	50	0
10	Old Redwood Hwy	Shiloh Rd	Project Entrance	19,640	89	0	11	2	1	50	60	0
11	Old Redwood Hwy	Project Entrance	S of Project Entrance	10,820	89	0	11	2	1	50	65	0

Appendix E-7

FHWA-RD-77-108 Highway Traffic Noise Prediction Model
Data Input Sheet

Project #: 2022-051
Description: Cumulative 2040 + Project Alternative A
Ldn/CNEL: Ldn
Hard/Soft: Soft

		Segment Description										
Segment	Roadway Name	From	To	ADT	Day %	Eve %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)
1	Shiloh Rd	Conde Ln	Caletti Ave	22,645	80	0	20	2	1	45	420	0
2	Shiloh Rd	Caletti Ave	US-101 SB Ramps	25,460	80	0	20	2	1	45	100	0
3	Shiloh Rd	US-101 SB Ramps	US-101 NB Ramps	29,990	80	0	20	2	1	45	100	0
4	Shiloh Rd	US-101 NB Ramps	Hembree Ln	33,365	80	0	20	2	1	45	100	0
5	Shiloh Rd	Hembree Ln	Old Redwood Hwy	25,435	80	0	20	2	1	45	50	0
6	Shiloh Rd	Old Redwood Hwy	Gridley Dr	9,752	86	0	14	2	1	45	50	0
7	Shiloh Rd	Gridley Dr	Project Entrance E	7,525	83	0	17	2	1	45	50	0
8	Shiloh Rd	Project Entrance E	E of Project Entrance	3,508	83	0	17	2	1	45	50	0
9	Old Redwood Hwy	North of Shiloh Rd	Shiloh Rd	17,265	80	0	20	2	1	50	50	0
10	Old Redwood Hwy	Shiloh Rd	Project Entrance	20,983	89	0	11	2	1	50	60	0
11	Old Redwood Hwy	Project Entrance	S of Project Entrance	11,655	89	0	11	2	1	50	65	0

Appendix E-8

FHWA-RD-77-108 Highway Traffic Noise Prediction Model
Data Input Sheet

Project #: 2022-051
Description: Cumulative 2040 + Project Alternative B
Ldn/CNEL: Ldn
Hard/Soft: Soft

		Segment Description										
Segment	Roadway Name	From	To	ADT	Day %	Eve %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)
1	Shiloh Rd	Conde Ln	Caletti Ave	22,560	80	0	20	2	1	45	420	0
2	Shiloh Rd	Caletti Ave	US-101 SB Ramps	25,375	80	0	20	2	1	45	100	0
3	Shiloh Rd	US-101 SB Ramps	US-101 NB Ramps	29,290	80	0	20	2	1	45	100	0
4	Shiloh Rd	US-101 NB Ramps	Hembree Ln	32,080	80	0	20	2	1	45	100	0
5	Shiloh Rd	Hembree Ln	Old Redwood Hwy	24,150	80	0	20	2	1	45	50	0
6	Shiloh Rd	Old Redwood Hwy	Gridley Dr	8,571	86	0	14	2	1	45	50	0
7	Shiloh Rd	Gridley Dr	Project Entrance E	6,635	83	0	17	2	1	45	50	0
8	Shiloh Rd	Project Entrance E	E of Project Entrance	3,356	83	0	17	2	1	45	50	0
9	Old Redwood Hwy	North of Shiloh Rd	Shiloh Rd	17,095	80	0	20	2	1	50	50	0
10	Old Redwood Hwy	Shiloh Rd	Project Entrance	20,709	89	0	11	2	1	50	60	0
11	Old Redwood Hwy	Project Entrance	S of Project Entrance	11,485	89	0	11	2	1	50	65	0

Appendix E-9

FHWA-RD-77-108 Highway Traffic Noise Prediction Model
Data Input Sheet

Project #: 2022-051
Description: Cumulative 2040 + Project Alternative C
Ldn/CNEL: Ldn
Hard/Soft: Soft

		Segment Description										
Segment	Roadway Name	From	To	ADT	Day %	Eve %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)
1	Shiloh Rd	Conde Ln	Caletti Ave	22,315	80	0	20	2	1	45	420	0
2	Shiloh Rd	Caletti Ave	US-101 SB Ramps	25,130	80	0	20	2	1	45	100	0
3	Shiloh Rd	US-101 SB Ramps	US-101 NB Ramps	26,800	80	0	20	2	1	45	100	0
4	Shiloh Rd	US-101 NB Ramps	Hembree Ln	28,385	80	0	20	2	1	45	100	0
5	Shiloh Rd	Hembree Ln	Old Redwood Hwy	20,455	80	0	20	2	1	45	50	0
6	Shiloh Rd	Old Redwood Hwy	Gridley Dr	5,170	86	0	14	2	1	45	50	0
7	Shiloh Rd	Gridley Dr	Project Entrance E	4,072	83	0	17	2	1	45	50	0
8	Shiloh Rd	Project Entrance E	E of Project Entrance	2,979	83	0	17	2	1	45	50	0
9	Old Redwood Hwy	North of Shiloh Rd	Shiloh Rd	16,600	80	0	20	2	1	50	50	0
10	Old Redwood Hwy	Shiloh Rd	Project Entrance	19,920	89	0	11	2	1	50	60	0
11	Old Redwood Hwy	Project Entrance	S of Project Entrance	10,990	89	0	11	2	1	50	65	0

Appendix F-1
Shiloh Resort & Casino
On-Site Noise Sources - Reference Levels & Frequency Spectra
Alternative A

Source	Source group	SPL dB(A)	Lmax dB(A)	63Hz dB(A)	125Hz dB(A)	250Hz dB(A)	500Hz dB(A)	1kHz dB(A)	2kHz dB(A)	4kHz dB(A)	8kHz dB(A)	16kHz dB(A)	
Drop off area	Passenger Parking	88.2	99.0	58.9	67.5	67.1	73.3	82.8	83.8	81.9	75.4	64.0	
Garage - 1	Passenger Parking	95.6	99.0	66.3	74.9	74.6	80.8	90.2	91.2	89.4	82.8	71.4	
Garage - 2	Passenger Parking	95.6	99.0	66.3	74.9	74.6	80.8	90.2	91.2	89.4	82.8	71.4	
Garage - 3	Passenger Parking	94.7	99.0	65.4	74.0	73.7	79.9	89.3	90.3	88.5	81.9	70.5	
Garage - 4	Passenger Parking	89.9	99.0	60.7	69.3	68.9	75.1	84.6	85.6	83.7	77.2	65.8	
Surface Parking	Passenger Parking	94.7	99.0	65.4	74.0	73.7	79.9	89.3	90.3	88.5	81.9	70.5	
Pool area	Pool Noise	100.0	100.0				100.0						
Truck Service Yard	Truck docks	86.7	113.0	68.2	72.3	76.3	79.3	82.3	80.3	75.3	70.3		

Appendix F-2
Shiloh Resort & Casino
On-Site Traffic Noise Sources
Alternative A

No.	Roadway name	Vehicles Peak Hr (Veh/hr)	
1	Loop Road	1053	
2	Loop Road	272	
3	Loop Road	267	
4	Main Entry Dr - north	155	
5	Main Entry Dr - north	25	
6	Main Entry Dr - south	25	
7	Main Entry Dr - south	155	
8	bus drop-off	50	
9	bus drop-off	10	
10	bus drop-off	50	
11	Surface parking - in	134	
12	Surface parking - out	134	
13	Parking Garage - in and out 80%	859	
14	Trucks	5	
15	Garage parking - in and out 20%	214	

Appendix G-1
Shiloh Resort & Casino
On-Site Noise Sources - Reference Levels & Frequency Spectra
Alternative B

Source	Source group	SPL dB(A)	Lmax dB(A)	63Hz dB(A)	125Hz dB(A)	250Hz dB(A)	500Hz dB(A)	1kHz dB(A)	2kHz dB(A)	4kHz dB(A)	8kHz dB(A)	16kHz dB(A)	
Drop off area	Passenger Parking	88.2	99.0	58.9	67.5	67.1	73.3	82.8	83.8	81.9	75.4	64.0	
Garage - 1	Passenger Parking	95.6	99.0	66.3	74.9	74.6	80.8	90.2	91.2	89.4	82.8	71.4	
Garage - 2	Passenger Parking	95.6	99.0	66.3	74.9	74.6	80.8	90.2	91.2	89.4	82.8	71.4	
Garage - 3	Passenger Parking	95.6	99.0	66.3	74.9	74.6	80.8	90.2	91.2	89.4	82.8	71.4	
Garage - 4	Passenger Parking	94.2	99.0	64.9	73.5	73.1	79.3	88.8	89.8	87.9	81.4	70.0	
Pool area	Pool Noise	100.0	100.0				100.0						
Truck Service Yard - Alt B	Truck docks	85.7	113.0	67.2	71.3	75.3	78.3	81.3	79.3	74.3	69.3		

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Appendix G-2
Shiloh Resort & Casino
On-Site Traffic Noise Sources
Alternative B

No.	Roadway name	Vehicles Peak Hr (Veh/hr)	
1	Loop Road	1000	
2	Loop Road	259	
3	Loop Road	254	
4	Main Entry Dr - north	147	
5	Main Entry Dr - north	24	
6	Main Entry Dr - south	24	
7	Main Entry Dr - south	147	
8	bus drop-off	48	
9	bus drop-off	10	
10	bus drop-off	48	
11	Surface parking - in	128	
12	Surface parking - out	128	
13	Parking Garage - in and out 80%	815	
14	Trucks	5	
15	Garage parking - in and out 20%	204	

Appendix H-1
Shiloh Resort & Casino
On-Site Noise Sources - Reference Levels & Frequency Spectra
Alternative C

Source	Source group	SPL dB(A)	Lmax dB(A)	63Hz dB(A)	125Hz dB(A)	250Hz dB(A)	500Hz dB(A)	1kHz dB(A)	2kHz dB(A)	4kHz dB(A)	8kHz dB(A)	16kHz dB(A)	
Hotel Parking	Passenger Parking	94.2	99.0	64.9	73.5	73.1	79.3	88.8	89.8	87.9	81.4	70.0	
Winery Parking	Passenger Parking	91.4	99.0	62.1	70.7	70.4	76.6	86.0	87.0	85.2	78.6	67.2	
Pool area	Pool Noise	100.0	100.0				100.0						
Truck Service Yard - Alt B	Truck docks	82.7	113.0	64.2	68.2	72.3	75.3	78.2	76.2	71.3	66.2		

Appendix H-2
Shiloh Resort & Casino
On-Site Traffic Noise Sources
Alternative C

No.	Roadway name	Vehicles Peak Hr (Veh/hr)	
1	Loop Road	361	
2	Main Entry Dr - north	92	
3	Main Entry Dr - north	90	
4	Main Entry Dr - south	90	
5	Main Entry Dr - south	92	
6	Trucks	2	
7	Loop Road	351	
8	Loop Road	228	
9		361	
10		123	

BOLLARD
Acoustical Consultants