Appendix 5

Noise Technical Report

Santa Monica Mountains

North Area Plan and Community Standards District Update

Noise Technical Report

Prepared for:

Los Angeles County
Department of Regional Planning

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Aspen environmental group

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Prepared For:

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Attachment A: Ambient Noise Measurement Details

1.0 Introduction

This Noise Technical Report provides background information on acoustical terms, common indoor and outdoor noise levels, presents ambient noise conditions measured in four separate study areas, identifies the applicable regulatory setting of the North Area, and provides recommended noise considerations within the North Area as they relate to regulating outdoor noise levels on adjacent sensitive receptors. This study was prepared in support of the County of Los Angeles, Department of Regional Planning's environmental analysis of the County's proposed update to the Santa Monica Mountains North Area Plan (NAP) and Community Standards District (CSD).

1.1 General Information on Noise

The assessment of noise utilizes specialized terminology that is not typically used in everyday conversations. Therefore, to assist in understanding the subsequent analysis, Table 1 provides definitions for technical terms used in this Report.

Table 1. Summary of Acoustical Terms

Term	Definition
Decibel (dB)	A unit describing the amplitude of sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure, which is 20 micropascals (20 micronewtons per square meter).
A–Weighted Sound Level (dBA)	The sound level in decibels as measured on a sound level meter using the A weighted filter network. The A–weighted filter de–emphasizes the very low and very high frequency components of sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise. All sound levels in this report are A–weighted.
Ambient Noise Level	The composite noise from all sources resulting in the existing normal level of environmental noise at a given location.
Equivalent Noise Level (Leq)	The average dBA level, on an equal energy basis, during the measurement period.
Maximum Noise Level (Lmax)	The maximum noise level during a sound measurement period.
Minimum Noise Level (Lmin)	The minimum noise level during a sound measurement period.
Percentile Noise Level (L90)	The noise level that occurs 90 percent of the time during the measurement period. Comparing the L90 level to the Leq is useful within urban environments. The greater the difference between these two metrics, the more ambient conditions represent noise sources that quickly peak and dissipate (like a vehicle pass by). When the Leq and L90 levels show less difference, ambient conditions contain noise sources with less fluctuation.

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

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

In most cases, noise sources produce effects in the first two categories. No satisfactory way exists to measure the subjective effects of noise, or to measure the corresponding reactions of annoyance and dissatisfaction. This lack of a common standard is due primarily to the wide variation in individual thresholds of annoyance and habituation to noise. Thus, an important way of determining a person's subjective reaction to a new noise is by comparison with the normal ambient noise environment at a receptor location.

Ambient noise is generally considered low when below 50 dBA, moderate in the 50–65 dBA range, and high above 65 dBA (FTA, 2006). Although people often accept higher noise levels in urban residential and residential–commercial zones, high–noise levels are nevertheless considered to be an annoyance and may be adverse to public health. In general, the more the dBA level or tonal (frequency) variations of a noise exceed ambient conditions, the less acceptable the new noise will be, depending on each person's tolerance for noise. When comparing sound levels from similar sources (for example, changes in traffic noise levels), an increase of 3 dBA is considered to be a just–perceivable difference, 5 dBA is clearly perceivable, and 10 dBA is considered a doubling in perceived loudness. Figure 1 illustrates typical noise levels for common sounds.

The land uses surrounding a receptor often dictate what ambient noise levels would be considered acceptable or unacceptable. Lower levels are expected in rural or suburban areas than what would be expected for urban areas, commercial, or industrial zones. Nighttime ambient levels in urban environments are typically seven decibels lower than the corresponding daytime levels. In rural areas away from roads and other human activity, the day–to–night difference can be considerably less. Areas with full–time human occupation that are subject to nighttime noise are often considered objectionable because of the likelihood of disrupting sleep. Noise levels above 45 dBA at night can result in the onset of sleep interference effects. At 70 dBA, sleep interference effects become considerable (USEPA, 1974).

2.0 Environmental Setting

2.1 Sensitive Receptors

Noise sensitive land uses, or sensitive receptors, are generally considered to include those uses where noise exposure could result in health-related risks to individuals, as well as places where individuals expect quiet to be an essential element of the location. Residential dwellings are of primary concern because of the potential for increased and prolonged exposure of individuals to both interior and exterior noise and potential sleep disruptions. Additional land uses, such as parks, historic sites, cemeteries, and recreation areas, are also considered sensitive to exterior noise. Schools, places of worship, hotels, libraries, nursing homes, retirement residences, and other places where low interior noise levels are essential are also considered noise sensitive land uses/sensitive receptors. However, the majority of noise sensitive land uses in the study area are residential.

2.2 Study Area

The scope of this technical report is to identify noise–generating land uses (e.g. vineyards and parks with outdoor events), sensitive receptors, and baseline noise measurements as well as recommends measures to address potential noise in the North Area. Based on this objective, coordination with County of Los Angeles Regional Planning and County of Los Angeles Department of Public Health occurred to identify the study area for this report. This coordination and identification of the study area also considered public complaints from these specific types of noise–generating land uses and previous noise investigations conducted by County of Los Angeles Department of Public Health (as discussed later in Section 4.2). The selection of the study area also considered noise from these special event land use types to be of concern to residents within the North Area boundary, with the selection of the study area and ambient noise measurement locations based on previous complaints and noise investigation studies.

Within the North Area Plan boundary, a number of special event locations were identified. These locations were selected due to their ability to generate noise during outdoor events (weddings, parties, etc.) and were

mapped for their distance to nearby residences (key sensitive receptors of concern with respect to night-time noise). These event locations are identified in Table 2 and shown in Figure 2. When considering the event locations shown in Table 2 and Figure 2, the following factors were considered to select four general study area locations where short–term ambient noise measurements would be conducted:

- Distance to nearest residential receptor.
- Land use type (wedding location, public park, etc.) and potential for nuisance noise outside normal hours.
- If ambient noise data was collected during previous County of Los Angeles noise studies.
- If roadways with significant traffic volumes were located adjacent to the event location and receptors, resulting in elevated ambient noise levels (which would mask event noise).
- Confirmation that outdoor wedding and event activities are advertised as available at the location.
- If the primary noise generating areas of the location (assumed outdoor event area and parking areas) face the nearest residential receptors.

Table 2. North Area Plan Boundary: Outdoor Wedding and Entertainment Locations

Map ID	Name and Location	Land Use Type	Distance to Nearest Residential Receptor1
1	Triunfo Creek Vineyards 2714 Triunfo Canyon Rd. Agoura Hills, 91301	Vineyard Wedding Venue	547 feet southwest
2	Malibu Wine Safaris 3211 Mulholland Hwy. Malibu, 90265	Vineyard Wedding Venue	549 feet west
3	Cielo Malibu Wines 31424 Mulholland Hwy. Malibu, 90265	Vineyard Wedding Venue	224 feet west
4	Semler Malibu Estate Wines 31727 Mulholland Hwy. Malibu, 90265	Vineyard Wedding Venue	1,738 feet southeast
5	Blackberry Creek Farm 1801 N Topanga Canyon Blvd. Topanga, 90290	Ranch/Farm Wedding Venue	353 feet east
6	Rocky Oaks Estates 340 Kanan Rd. Malibu, 90265	Private Estate Wedding Venue	832 feet west
7	Lobo Castle 31400 Lobo Canyon Rd. Agoura Hills, 91301	Private Estate Wedding Venue	215 feet east
8	Malibu Lake Mountain Club 29033 Lake Vista Dr. Agoura Hills, 91301	Private Club Wedding Venue	264 feet south
9	The 1909 1909 N Topanga Canyon Blvd. Topanga, 90290	Wedding Venue	228 feet west
10	The Mountain Mermaid 20421 Callon Dr. Topanga, 90290	Wedding Venue	102 feet west
11	SaddleRock Ranch 31727 Mulholland Hwy. Malibu, 90265	Vineyard Wedding Venue	1,012 feet east

Table 2. North Area Plan Boundary: Outdoor Wedding and Entertainment Locations

Map ID	Name and Location	Land Use Type	Distance to Nearest Residential Receptor1
12	Paramount Ranch 2903 Cornell Rd. Agoura Hills, 91301	Regional Park Entertainment Venue	1,667 feet southeast
13	Peter Strauss Ranch 30000 Mulholland Hwy. Agoura Hills, 91301	Regional Park Entertainment Venue Wedding Venue	414 feet north
14	Sage Hill Ranch 4206 Cornell Rd. Agoura Hills, 91301	Vineyard Wedding Venue	174 feet west
15	Gates Canyon Park 25801 Thousand Oaks Blvd. Calabasas, 91302	Regional Park Entertainment Venue	533 feet west
16	Vasa Park 2854 Triunfo Canyon Rd. Agoura Hills, 91301	Regional Park Entertainment Venue	420 feet south
17	Camp Keystone 2854 Triunfo Canyon Rd. Agoura Hills, 91301	Summer Camp Entertainment Venue	906 feet northwest
18	Brookview Ranch 2972 Triunfo Canyon Rd. Agoura Hills, 91301	Wedding Venue	425 feet northwest and northeast
19	Oak Canyon Ranch 3272 Triunfo Canyon Rd. Agoura Hills, 91301	Wedding Venue Entertainment Venue	900 feet east

1 – Distance was calculated using Google Earth from the center of the event location to the nearest confirmed residence (not assumed as part of the event location). Due to the aerial nature of this search, structures that did not appear habitable or present residential characteristics were not utilized.

Based on the above considerations, four general areas were selected for study as subsets of the greater North Area, shown in Figure 2. These four study areas include:

- Mulholland/Kanan Area, shown in Figure 3.
- Triunfo Canyon Area, shown in Figure 4.
- Malibou Lake Area, shown in Figure 5.
- Topanga Canyon Area, shown in Figure 6.

Ambient noise measurements were taken within these four study areas at nearby accessible public locations between the source (e.g. potential noise–generating venue) and receptor property line (e.g. where property lines meet, along a public roadway where the property lines meet, or at the receptor property line facing the source if property lines are not adjoined).

2.3 Ambient Noise Conditions

Short–term (one–hour) noise measurements were conducted between August 6 (Monday) through August 9 (Thursday), 2018 at two different times (i.e. 1 pm and 8 pm) for each day of the four–day period. These measurements represent typical daytime and evening ambient (background) noise conditions at residential receptor locations (near event locations) within the four study areas. The results of these measurements are provided in Table 3 and their locations are shown in Figures 3 through 6. Additional details of these measurements are provided in Attachment A.

Noise Source and Distance	A-Weighted Sound Level (dBA)	Subjective Impression
Civil defense siren (100 ft)	130	Pain threshold
Jet takeoff (200 ft)	120	
Rock music concert (50 ft)	110	
Pile driver (50 ft)	100	Very loud
Ambulance siren (100 ft)	90	
Diesel locomotive (25 ft)	85	Loud
Pneumatic drill (50 ft)	80	
Freeway (100 ft)	70	Moderately loud
Vacuum cleaner (10 ft)	60	
Light traffic (100 ft)	50	
Large transformer (200 ft)	40	Quiet
Soft whisper (5 ft)	30	Threshold of hearing

Source: USEPA 1974 and 1978

Figure 1
Typical Sound Levels Measured in the Environment and Industry

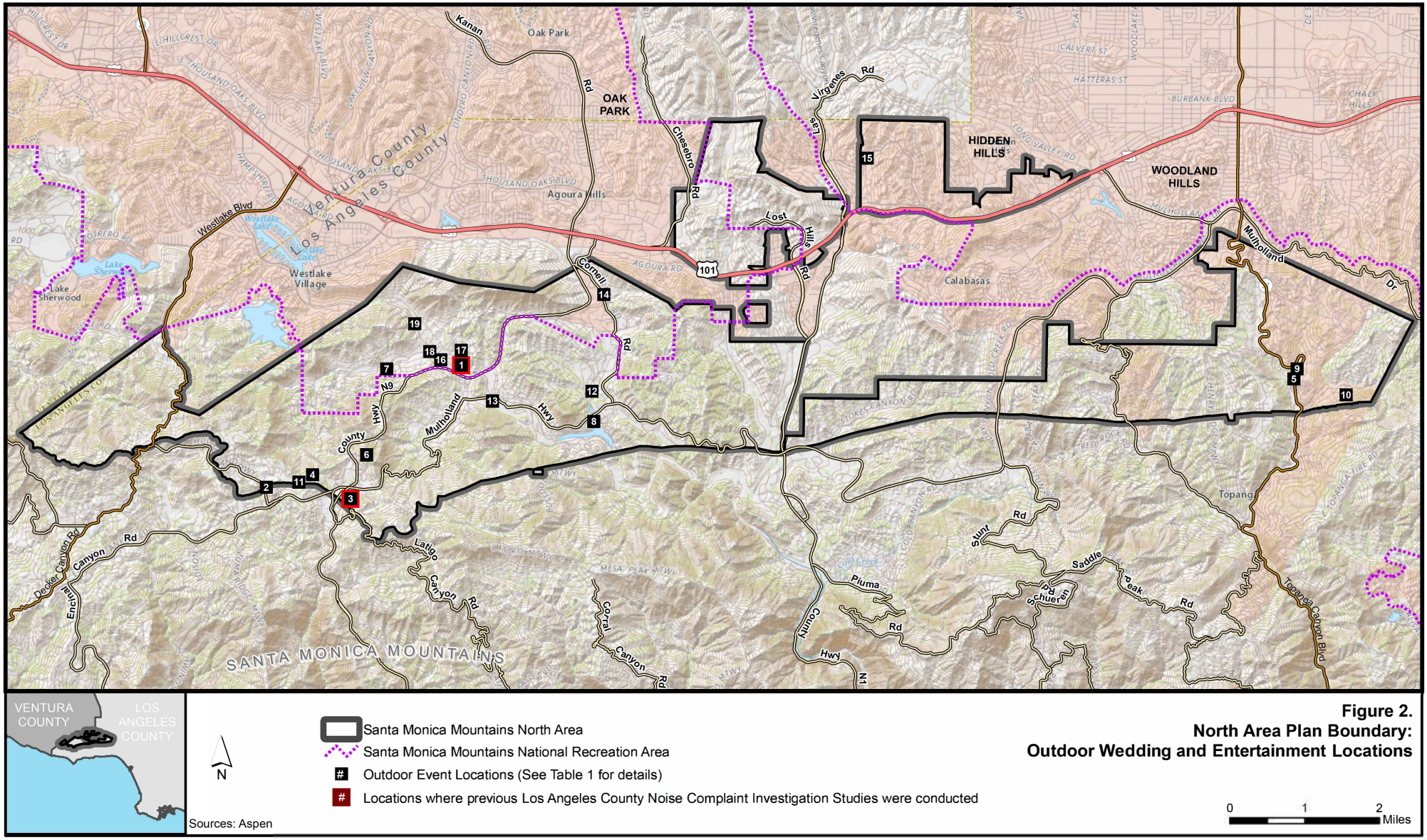

Figure 2.
North Area Plan Boundary:
Outdoor Wedding and Entertainment Locations

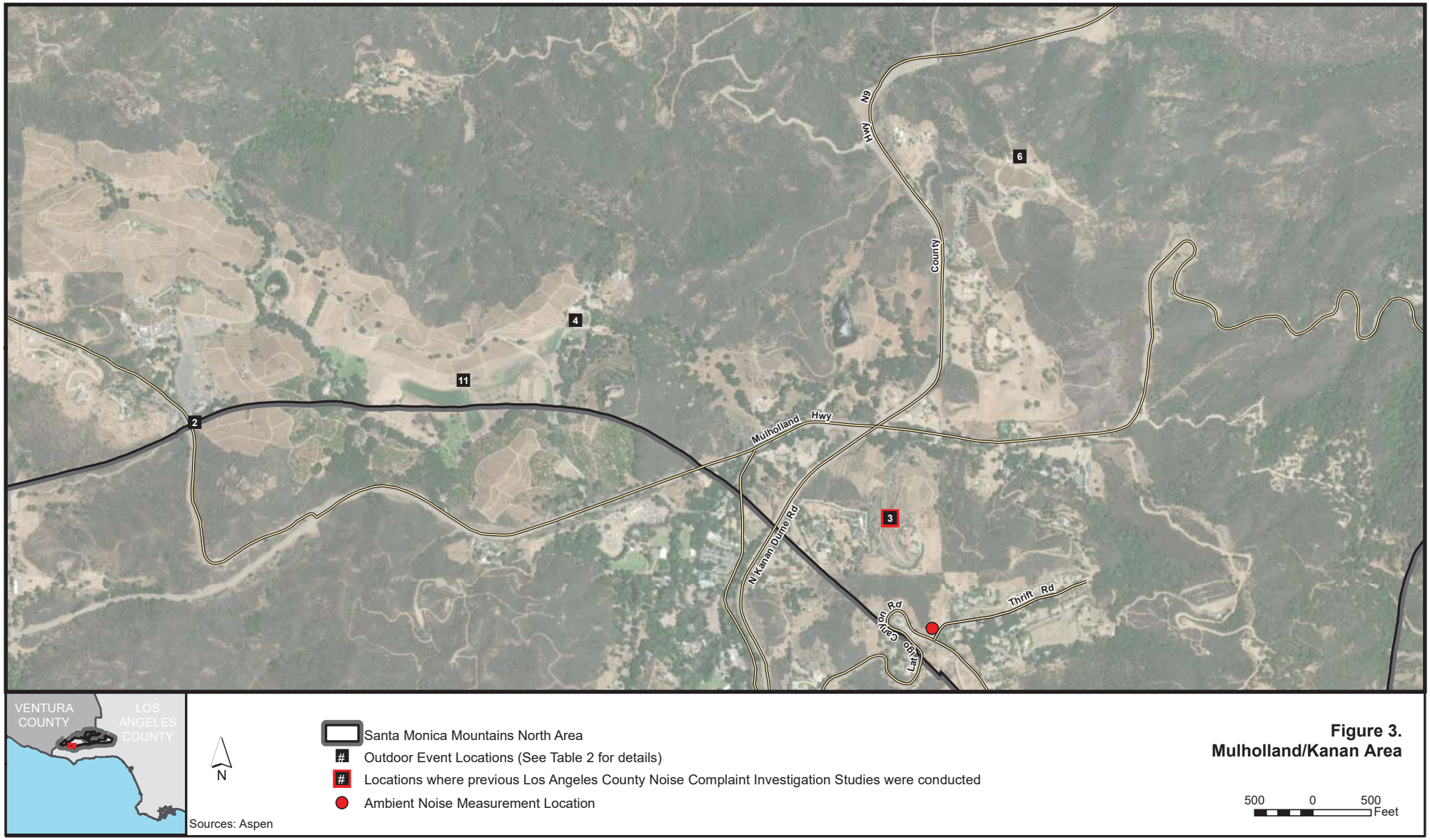

Figure 3.
Mulholland/Kanan Area

Figure 4.
Triunfo Canyon Area

Figure 5.
Malibou Lake Area

Figure 6.
Topanga Canyon Area

As shown in Table 3, measurement locations 1 and 2 show afternoon and evening average ambient noise levels (Leq) representative of rural areas. While, measurement locations 3 and 4 show slightly greater afternoon and evening average ambient noise levels (Leq), more representative of suburban areas. At all locations, the primary source of ambient noise was traffic on nearby roadways.

Table 3. Ambient Noise Measurement Levels

Location	Duration	Measured Ambient Level (dBA)					County Thresholds[1]		Ambient Exceed Threshold ?
		Lmin	Leq	Lmax	L90	L50	Lmax	L50	
1 – Mulholland/Kanan Area	1:00 p.m. – 2:00 p.m.	31.9	50.9	84.6	32.2	33.7	70	50	Yes (Lmax)
	8:00 p.m. – 9:00 p.m.	32.1	41.1	57.7	33.1	36.0	70	50	No
2 – Triunfo Canyon Area	1:00 p.m. – 2:00 p.m.	32.1	43.7	69.7	33.7	37.5	70	50	No
	8:00 p.m. – 9:00 p.m.	31.8	46.9	67.8	32.4	47.3	70	50	No
3 – Malibou Lake Area	1:00 p.m. – 2:00 p.m.	38.8	51.4	70.3	42.8	45.7	70	50	Yes (Lmax)
	8:00 p.m. – 9:00 p.m.	31.9	50.8	80.1	36.5	40.5	70	50	Yes (Lmax)
4 – Topanga Canyon Area	1:00 p.m. – 2:00 p.m.	32.0	55.6	78.7	38.7	52.0	70	50	Yes (Both)
	8:00 p.m. – 9:00 p.m.	32.4	56.8	85.1	50.0	52.7	70	50	Yes (Both)

Notes: Additional details of these noise measurements are provided in Attachment A.
[1] County Noise Ordinance Thresholds are provided below in Section 3.2, Table 4

All acoustical measurements were conducted with a Quest SoundPro SE/DL–1 sound level meter, which conform to ANSI S.14–1961 for Type 1 precision sound level metering. All equipment was calibrated before use by Pine Environmental.

3.0 Regulatory Environment

3.1 Applicable State Regulations

California Government Code Section 65302 encourages each local government entity to implement a noise element as part of its general plan. In addition, the California Governor's Office of Planning and Research has developed guidelines for preparing noise elements, which include recommendations for evaluating the compatibility of various land uses as a function of community noise exposure. These recommendations have been incorporated into the applicable local plans and policies discussed below.

3.2 Applicable Local Plans and Regulations

The North Area Plan boundary is completely located within unincorporated County of Los Angeles lands. Therefore, the applicable noise–related plans and policies are provided below.

3.2.1 County of Los Angeles General Plan, Noise Element

Within the County of Los Angeles General Plan Noise Element, the following policy components are applicable to event noise within the North Area boundary (County of Los Angeles, 2015):

- *Policy N1.1*: Utilize land uses to buffer noise sensitive uses from sources of adverse noise impacts.
- *Policy N1.2*: Reduce exposure to noise impacts by promoting land use compatibility.
- *Policy N1.3*: Minimize impacts to noise sensitive land uses by ensuring adequate site design, acoustical construction, and use of barriers, berms, or additional engineering controls through Best Available Technologies (BAT).

In addition to these policies, the County has adopted the following noise thresholds within their General Plan to develop exterior noise standards, as presented in Table 4.

Table 4. Exterior Noise Standards

Noise Zone	Receptor Type	Time Period	Threshold dBA (Noise Cannot Exceed)				
			L50 (30 Min/Hr.)	L25 (15 Min/Hr.)	L8.3 (5 Min/Hr.)	L1.7 (1 Min/Hr.)	Lmax (At No Time)
I	Sensitive	Anytime	45	50	55	60	65
II	Residential	10 PM to 7 AM	45	50	55	60	65
		7 AM to 10 PM	50	55	60	65	70
III	Commercial	10 PM to 7 AM	55	60	65	70	75
		7 AM to 10 PM	60	65	70	75	80
IV	Industrial	Anytime	70	75	80	85	90

Source: County of Los Angeles, 2015

3.2.2 County of Los Angeles Municipal Code, Section 12.08 Noise Regulations

The County of Los Angeles Municipal Code Section 12.08.390, Exterior Noise Standards, provides an enforceable regulation of the exterior noise level limits for operation of a facility/event established within the General Plan (County of Los Angeles, 2018a). Therefore, the noise level thresholds established by Municipal Code Section 12.08.390 are identical to those presented in Table 4 for the County of Los Angeles General Plan Noise Element.

4.0 Impact Assessment

4.1 Thresholds of Significance

Regulatory Thresholds. As discussed in Sections 3.2.1 and 3.2.2, both the County of Los Angeles General Plan and Municipal Code Section 12.08 establish ambient noise thresholds and standards for residential locations between 7:00 a.m. and 10:00 p.m. and from 10:00 p.m. to 7:00 a.m. These standards are shown in Table 4. This study focuses on Municipal Code Section 12.08 Lmax and L50 thresholds, as these noise metrics were recorded during ambient noise measurements conducted for this study as well as previous noise investigations conducted by County of Los Angeles. According to the applicable thresholds shown in Table 4, a noise generator would be in non–compliance with the County of Los Angeles General Plan and Municipal Code Section 12.08 if the following occurs:

- Ambient noise levels at an affected residential property line exceed 70 dBA Lmax or 50 dBA L50 between 7:00 a.m. and 10:00 p.m.
- Ambient noise levels at an affected residential property line exceed 65 dBA Lmax or 45 dBA L50 between 10:00 p.m. and 7:00 a.m.

Nuisance Thresholds. In addition to compliance with the County's threshold described above, potential noise impacts should be considered with respect to levels over ambient conditions. These include a substantial temporary or periodic increase in ambient noise levels in the vicinity of an event above levels existing without the event. As discussed earlier, when comparing sound levels an increase of 3 dBA is considered to be a just–perceivable difference, a 5-dBA increase is clearly perceivable, and a 10-dBA increase is considered a doubling in perceived loudness from a source. Based on these considerations, a noise generator would have a significant impact on ambient noise levels if the following occurs:

- Event noise levels at an affected residential property line exceed 5–10 dBA over typical ambient conditions.

4.2 Previous Assessments – Special Event Noise Levels

In response to public complaints of noise generated during wedding and other special events, the County of Los Angeles Department of Public Health has conducted noise investigations at Cielo Malibu Wines and Triunfo Creek Vineyards. These locations are identified in Table 2 as Map Locations #1 and #3, respectively, with their locations shown in Figures 2, 3, and 4. The following describes these previous noise investigations:

- **Cielo Malibu Wines (Mulholland/Kanan Area).** The County of Los Angeles Department of Public Health has conducted five (5) separate noise investigations at this event location within 2017 and 2018 (County of Los Angeles 2017a, 2017b, 2018b, and 2018c). The Cielo Malibu Wines property includes a vineyard and residence within the southern portion of the property, with a barn area in the approximate center of the property where special events are held. The entrance to Cielo Malibu Wines is located on Mulholland Highway, with special event participants traversing the entire site to access a parking area located in the southern portion of the property. Several residences are located immediately west of the Cielo Malibu Wines property. Ongoing complaints from these adjacent residences of excessive noise generated during special events triggered the County of Los Angeles Department of Public Health to conduct these five specific investigations.

  These investigations continuously measured noise levels at these adjacent residences prior to the special event (weddings), during special event set–up/arrival/departure, and during the special event itself to document both ambient noise levels and noise levels during the event at nearby residential receptors to determine if event noise levels were exceeding County of Los Angeles Municipal Code Section 12.08 thresholds (refer to Table 4). Each investigation included measuring noise levels continuously from two locations at the Cielo Malibu Wines property line adjoining with adjacent residences. The dates of these investigations, duration of noise measurements, and compliance findings are summarized in Table 5. As shown, noise levels were found to exceed County of Los Angeles Municipal Code Section 12.08 thresholds during two separate special events, while found in compliance during the other three separate investigations.

- **Triunfo Creek Vineyards (Triunfo Canyon Area).** A noise investigation was conducted at the Triunfo Creek Vineyard facility to determine compliance with Los Angeles County Code, Title 12 Chapter 12.08 Noise Control Ordinance. The noise investigation was requested by Los Angeles County Board of Supervisor Kuehl's Office in response to complaints received by local residents of alleged intrusive noise from events (i.e., weddings) held at this location (County of Los Angeles 2017c). The ambient (background) noise levels were measured as well as event noise levels (ambient + wedding noise) by

Department of Public Health staff during the period of Friday March 24, 2017 through Sunday morning, March 26, 2017. The wedding period included event set–up, event, and event take–down noise. The measurements were made from the nearest residences (property line). The investigation included continuous long–term (24–hour) noise measurements at one residential receptor location and several short–term (one–hour) measurements were taken at various locations near the Triunfo Creek Vineyard west property line on Triunfo Canyon Road. The findings of this investigation are summarized in Table 5. As shown, noise levels were found in compliance with County of Los Angeles Municipal Code Section 12.08 thresholds.

Table 5. Noise Investigation Summary Results

Location	Date/Duration of Noise Measurements	Measurement Distance from Source	Maximum Recorded Noise Level During Measurement Period (dBA)[1]		Compliance Determination
			Lmax	L50	
Cielo Malibu Wines	4/2/17 (11:00 a.m.–4:30 p.m.)	200–feet	89	55	Event noise was found to exceed County of Los Angeles Municipal Code Section 12.08 thresholds
Cielo Malibu Wines	8/12/17 (4:20 p.m.–9:00 p.m.)	200–feet	81	54	Event noise was found to exceed County of Los Angeles Municipal Code Section 12.08 thresholds
Cielo Malibu Wines	4/21/18 (3:00 p.m.–11:00 p.m.)	1,000–feet	69	50	Event noise was found consistent with County of Los Angeles Municipal Code Section 12.08 thresholds
Cielo Malibu Wines	5/5/18 (3:00 p.m.–10:00 p.m.)	300–feet	78	56	Event noise was found consistent with County of Los Angeles Municipal Code Section 12.08 thresholds
Cielo Malibu Wines	5/12/18 (3:00 p.m.–11:00 p.m.)	300–feet	77	49	Event noise was found to exceed County of Los Angeles Municipal Code Section 12.08 thresholds
Triunfo Creek Vineyards	3/24/17 and 3/25/17 (9:00 a.m.–12:00 a.m. on 3/25 and 12:00 a.m.–11:59 a.m. on 3/25)	800–feet	71	49	Event noise was found consistent with County of Los Angeles Municipal Code Section 12.08 thresholds

Notes: This table presents the maximum measured peak (Lmax) and L50 noise levels recorded during each noise investigation (levels measured during special events), as maximum recorded levels would be utilized for compliance by the County of Los Angeles Department of Public Health.

1 - Maximum noise levels may have been generated by an ambient source (traffic, etc.) and not from the event. However, because measured maximum levels were used for compliance determinations during the noise investigation, they are shown here as being likely noise levels from event activities.

4.3 Analysis and Considerations

During daytime hours, ambient conditions shown in Table 3 would likely reduce the potential for event–related noise to exceed County of Los Angeles Municipal Code Section 12.08 thresholds or the nuisance threshold of 10 dBA over ambient. This is because higher traffic volumes and frequent vehicle noise exceeds the County of Los Angeles Municipal Code Section 12.08 thresholds under ambient conditions. Additionally, daytime hours are typically less sensitive to residences. Event noise during daytime hours is less likely to trigger nuisance impacts and complaints.

Event noise generated during the evening hours is of greatest concern. Table 6 compares typical ambient levels measured during the evening hours at rural residences proximate to event locations to noise levels recorded during special events.

Table 6. Evening Hours Ambient Versus Estimated Event Noise Comparison

Noise Metric	Typical Evening Ambient Levels at Residences (dBA)[1]	Estimated Potential Maximum Noise Levels During Special Event 200 Feet from Source (dBA)[2]
Lmax	73	85
L50	44	55
L90	38	Unavailable

1 - Averaged from Table 3, evening hour ambient noise measurements.
2 - Averaged from Table 5, Noise Investigations on 4/2417 and 8/12/17, due to both measurements being conducted at the same distance from the source (200–feet).

County of Los Angeles Municipal Code Section 12.08 Thresholds. Based on previous noise investigations, event noise is likely to exceed Municipal Code Section 12.08 thresholds at residences within 500–feet of the event. At distances greater than this, event noise is attenuating to comply with the noise standards shown in Table 4.

Nuisance Noise Threshold. No satisfactory way exists to measure the subjective effects of noise, or to measure the corresponding reactions of annoyance and dissatisfaction. This lack of a common standard is due primarily to the wide variation in individual thresholds of annoyance and habituation to noise. Thus, an important way of determining a person's subjective reaction to a new noise is by comparison with the normal /typical ambient noise environment at a receptor location.

Noise levels typically attenuate at an average rate of 4–6 dBA every doubling of distance depending on adjacent surfaces and noise spreading (FTA, 2006). Therefore, as shown in Table 6, impulse Lmax and L50 noise levels from events are expected to only create nuisance impacts at adjacent receptors within 400–feet of the source. However, due to ambient levels in these rural study areas being heavily influenced by traffic trips, the L90 metric is relevant to determining potential nuisance impacts as it represents the typical ambient noise level 90 percent of the time at adjacent receptors. Under typical conditions, noticeable noise at these locations is limited to momentary sources such as a vehicle passing by or neighbor sources (dog barking, etc.).

As shown in Tables 3 and 6, during the evening hours, ambient noise levels at residences proximate to event locations experience very low noise conditions 90 percent of the time (L90 levels). Therefore, special event noise, both momentary impulse sources (laughter, clapping, etc.) and sustained sources (music, loud talking, etc.), would be very noticeable at adjacent receptors compared to recorded L90 ambient levels. Event noise is not a typical source under normal ambient (background) conditions and could exceed the nuisance threshold (10 dBA over ambient L90 conditions) at residences within 2,000–1,500 feet of an event location in quieter rural areas within the North Area boundary.

5.0 Recommendations

The following are recommended measures for consideration as part of the North Area Plan effort to reduce noise from special events on nearby sensitive receptors. See Figure 7 for a summary of the findings of this report, which support the recommendations noted below.

New Noise Ordinance Threshold

- Consider establishing a new Municipal Code Noise Ordinance L90 threshold within the North Area Plan boundary that more accurately reflects the quieter rural levels of the area (L90 threshold is currently not part of the established Municipal Code Section 12.08 thresholds).
- Based on measured ambient L90 levels, it is recommended a Noise Ordinance threshold within the North Area be established between 40-50 dBA L90, during both the daytime and nighttime. As shown in Table 3, ambient L90 measurements did not vary significantly between afternoon and evening hours, except along Topanga Canyon Boulevard where high evening commute traffic volumes increases the ambient L90 level.

Additional Measures

- Implement a permit application process specific to outdoor events exceeding 25–persons within the North Area boundary. Permit applications could require information including, but not limited to:
  - Use of sound amplification systems, which should include a site layout of the amplification system (if utilized) to ensure that all speakers are directed away from residences. The backside of all speakers should be wrapped in sound attenuation blankets.
  - Location of parking areas, which should be selected to maximize distance to adjacent residences.
  - Location of foot traffic corridors between event location, food and beverage service areas, restrooms, parking areas, etc., which should be selected to maximize distance to adjacent residences
  - Measures to reduce automobile trip generation of events, such as carpooling or bus programs from authorized off–site park and ride areas.
  - Assurances to limit noise–generating activities after 10:00 p.m.
  - Assurances that applicable telephone number(s) of the event location supervisor(s) have been provided to residents within 2,000–feet of event to call with questions or register noise complaints. All calls shall be returned within 30–minutes during the event, and within 24–hours before and after the event, to answer questions and handle complaints. Recommended and email address for the County of Los Angeles also be provided to document the frequency of complaints. Documentation of the complaint and resolution shall be maintained and provided to the County of Los Angeles when requested. Coordination with the County should be established when resolution of noise problems cannot be solved.
- Establish fines for event locations exceeding standards, found out of compliance with permit requirements, or regularly receiving noise complaints.
- Consider implementing requirements for the erection of temporary sound abatement structures along all site perimeter(s) facing residences to the maximum extent feasible. These walls should be a minimum of 10–12 feet in height and seek to reduce noise a minimum of 6–10 dBA.
- If noise complaints are regularly received, receptor exposure levels shall be determined through additional noise investigations (as necessary) and additional measures implemented to reduce excessive noise at the receptor, as feasible. The cost of additional noise investigations and staff time should be burdened by the event location.

Figure 7. Summary of Noise Levels and Compliance for North Area

Ambient Conditions

- Sound levels measured during the afternoon and early evening indicate ambient noise levels of approximately 37 dBA, 90% of the time (L90).
- Vehicle traffic is the main contributor to ambient noise conditions, elevating average (Leq) and maximum (Lmax) sound measurements.
- Momentary noise levels from a vehicle pass-by were measured at 75 to 95 dBA.

County Noise Ordinance

- County Noise Ordinance thresholds of 70 dBA Lmax (anytime), 50 dBA L50 (daytime), and 45 dBA L50 (nighttime) are routinely exceeded under baseline conditions due to traffic sound levels.

Previous Noise Studies (Special Events)

- Normal traffic noise on roads between an event and nearby residences exceed the County Lmax threshold making it difficult to comply with current County thresholds.
- The results of previous noise studies have been influenced by impulse traffic noise. In previous studies, it was unclear if the special event or background traffic was the reason for exceeding County thresholds.

Recommended Threshold

- L90 is recommended as a better metric for establishing a nuisance noise threshold within the North Area at sensitive receptors as it significantly reduces the influence of impulse traffic noise on the measured level.
- A noise increase of 5 dBA or more over ambient noise levels is considered a nuisance impact.
- Based on measured ambient L90 levels, it is recommended a Noise Ordinance threshold within the North Area be established between 40-50 dBA for the L90 threshold.

6.0 References

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ATTACHMENT A

AMBIENT NOISE MEASUREMENT DETAILS

Location 1: Mulholland/Kanan Area

Immediately surrounded by rolling hills and canyons, the Cielo Malibu Wine primary structures sits atop a hill within this area, with the vineyard and other areas developed along the northern and western slopes. The main entrance to the vineyard is located on Mulholland Highway, just east of Kanan Road. Residences are located directly west and south of the vineyard. The ambient noise measurement location was selected due to residences near this location being at equal elevation and having direct line-of-sight to the primary structure on the Cielo Malibu Wine property.

Ambient noise levels at this location are low, typical of rural areas. The key noise source characterizing ambient levels was traffic on Latigo Canyon Road. As shown, ambient levels spike due to impulse noise from vehicle trips, then drastically reduce to quiet rural levels. Traffic volumes on Latigo Canyon Road were observed to be almost double during the afternoon hours compared to the evening, resulting in daytime average ambient levels (Leq) higher than those during the evening.

Table A-1. Ambient Noise Measurement Summary: Location 1 (Mulholland/Kanan Area)

Date/Time	Measurement (dBA)					Notes
	Lmin	Leq	Lmax	L90	L50	
August 6, 2018 1:00 p.m. – 2:00 p.m.	31.9	50.9	84.6	32.2	33.7	▪ The primary daytime noise source was vehicle traffic on Latigo Canyon Road. Meter was approximately 70' from centerline. Due to the incline of Latigo Canyon Road, vehicles travelling uphill require extensive acceleration, which produces more noise. Vehicles travelling downhill require little, if any, acceleration. One–way traffic counts during the measurement period included: – Passenger Vehicles: 12 trips uphill; 14 trips downhill. – Large Trucks (UPS/FedEx, trash pickup, sewer pumping): 7 trips uphill, 3 trips downhill. – Motorcycles: 2 uphill trips, in succession, at 1:15 p.m. Motorcycles had loud performance exhaust systems. ▪ Secondary noise sources included distant traffic on Kanan Road, bird calls, several distant aircraft overflights (general aviation and jet), distant construction activities.
August 6, 2018 8:00 p.m. – 9:00 p.m.	32.1	41.1	57.7	33.1	36.0	▪ Primary evening noise sources vehicle traffic on Latigo Canyon Road. Vehicles were observed traveling at a reduced rate of speed compared to afternoon hours. One–way traffic counts during the measurement period included: – Passenger Vehicles: 16 trips uphill; 6 trips downhill. ▪ Secondary noise sources included distant traffic on Kanan Road, distant dog barking, and minor insect calls.

Chart 1a.
Ambient Noise Measurement Summary: Location 1 (Mulholland/Kanan Area); Afternoon (1:00–2:00 PM)

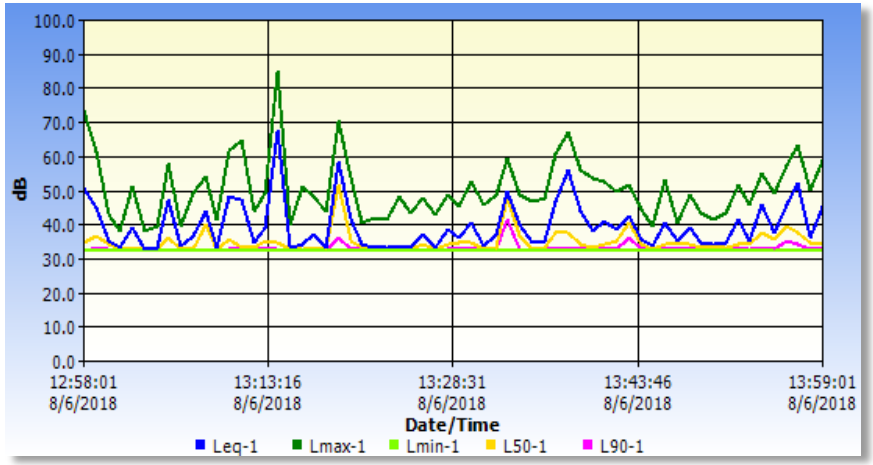
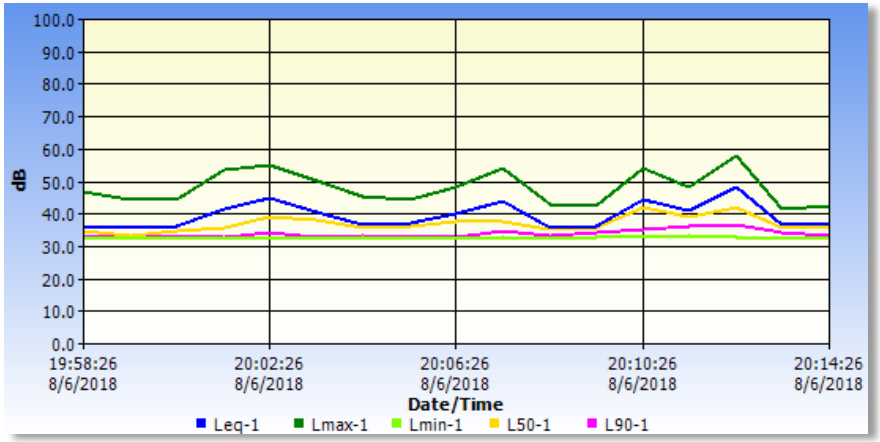


Chart 1b.
Ambient Noise Measurement Summary: Location 1 (Mulholland/Kanan Area); Evening (8:00–8:15 PM)*



* As shown in Table A-1, a one–hour measurement was conducted between 8:00 p.m. and 9:00 p.m. The data in Table A-1 was transcribed directly from the noise meter after the measurement period. However, a data transfer error between the noise meter and the external computer software occurred. This error limited graphable data to only 8:00 p.m. to 8:15 p.m. Based on field observation, the graphed data shown in Chart 1b is representative of the full hour period.

Location 2: Triunfo Canyon Area

This location includes several event facilities located on the north/northeast side of Triunfo Canyon Road. Traffic noise on Kanan Road quickly attenuates as the receptor is distanced from this road, due to topography along the southern side of Triunfo Canyon Road (hill separates Kanan Road and Triunfo Canyon Road). Residences are scattered along the southern side Triunfo Canyon Road, with increased residential density occurring along Lobo Canyon Road. The ambient noise measurement location was selected due to this location being central to both event facilities and representative of ambient levels at all receptors in the area not directly proximate to Kanan Road.

Ambient noise levels at this location are low, typical of rural areas. Key noise source characterizing the ambient levels include traffic on Triunfo Canyon Road and wildlife calls. As shown, ambient levels spike due to intermittent impulse noise from vehicle trips, then drastically reduce to quiet rural levels. Traffic volumes on Triunfo Canyon Road were observed to be almost double during the afternoon hours compared to the evening. However, as shown in Table A-2 and Chart 2a, the emergence of steady insect calls between 8:10–8:20 p.m. resulted in average ambient noise levels (Leq) being greater in the evening hours compared to afternoon conditions.

Table A-2. Ambient Noise Measurement Summary: Location 2 (Triunfo Canyon Area)

Date/Time	Measurement (dBA)					Notes
	Lmin	Leq	Lmax	L90	L50	
August 7, 2018 1:00 p.m. – 2:00 p.m.	32.1	43.7	69.7	33.7	37.5	▪ The primary daytime noise source was vehicle traffic on Triunfo Canyon Road. Meter was approximately 60’ from centerline. One–way traffic counts during the measurement period included: – Passenger Vehicles: 57 trips. – Large Trucks (UPS/FedEx, trash pickup): 3 trips. ▪ Secondary noise sources included distant children playing outdoors at Camp Keystone, bird calls, several distant general aviation aircraft overflights.
August 7, 2018 8:00 p.m. – 9:00 p.m.	31.8	46.9	67.8	32.4	47.3	▪ Primary evening noise sources included insect calls and vehicle traffic on Triunfo Canyon Road. Meter was approximately 60’ from centerline. One–way traffic counts during the measurement period included: – Passenger Vehicles: 26 trips. ▪ Secondary noise sources included distant traffic noise on Kanan Road and distant dog barking.

Chart 2a.
Ambient Noise Measurement Summary: Location 2 (Triunfo Canyon Area); Afternoon (1:00–2:00 PM)

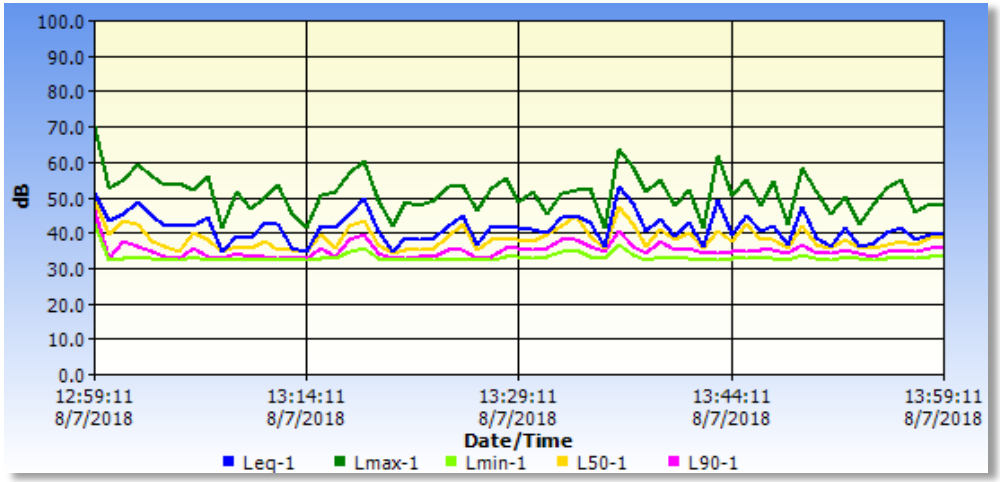
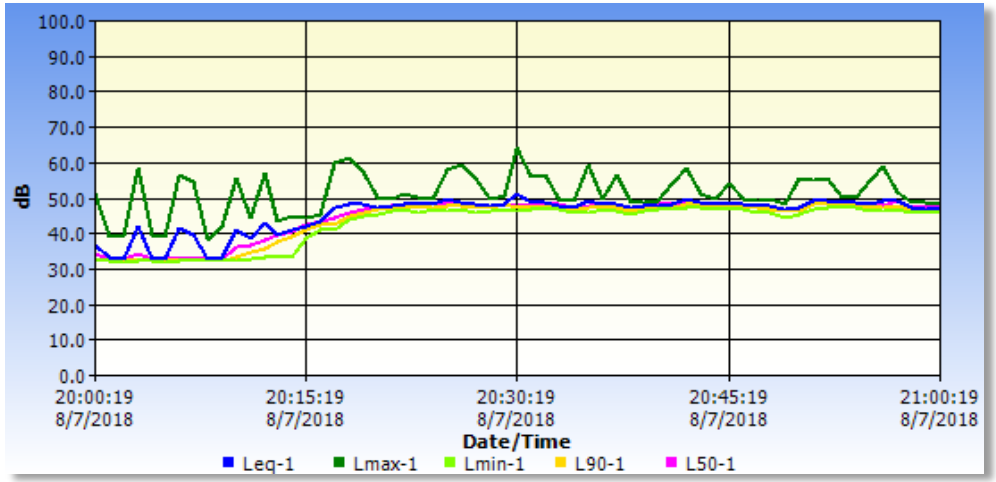


Chart 2b.
Ambient Noise Measurement Summary: Location 2 (Triunfo Canyon Area); Evening (8:00–9:00 PM)



Location 3: Malibou Lake Area

Situated around Malibou Lake, this location is primarily flat with residential development surrounding the event location. This ambient noise measurement location was selected to represent typical ambient levels of residences nearest the main event location entrance and staging area. Ambient noise levels at this location are lower, typical of suburban residential areas. Key noise source characterizing the ambient levels include traffic on Lakeshore Drive. As shown, ambient levels spike due to intermittent impulse noise from vehicle trips, then drastically reduce to quieter levels. Traffic volumes on Lakeshore Drive were observed to be greater during the evening hours compared to the afternoon. This is likely due to the scenic destination features of the lake. Vehicles were observed to stop along the northern bank of the lake (Lakeshore Drive shoulder) for scenic and starwatching observation. This resulted in similar afternoon and evening average ambient noise levels (Leq), with slightly lower L90 evening levels.

Table A-3. Ambient Noise Measurement Summary: Location 3 (Malibou Lake Area)

Date/Time	Measurement (dBA)					Notes
	Lmin	Leq	Lmax	L90	L50	
August 8, 2018 1:00 p.m. – 2:00 p.m.	38.8	51.4	70.3	42.8	45.7	▪ Primary daytime noise sources included a permanent water pump system operating at the northwestern corner of the Lake Vista Drive bridge and vehicle traffic on Lake Vista Drive. Meter was approximately 50' from centerline. One–way traffic counts during the measurement period included: – Passenger Vehicles: 29 trips. – Large Trucks (UPS/FedEx, moving truck, school bus): 4 trips. ▪ Secondary noise sources included distant traffic on Mulholland Highway, bird calls, several distant general aviation aircraft overflights, and a nearby central air conditioner compressor operating intermittently.
August 8, 2018 8:00 p.m. – 9:00 p.m.	31.9	50.8	80.1	36.5	40.5	▪ Primary evening noise sources included insect calls and vehicle traffic Lake Vista Drive. Meter was approximately 50' from centerline. One–way traffic counts during the measurement period included: – Passenger Vehicles: 46 trips. – Motorcycles: 2 motorcycles with loud performance exhaust systems in succession at 8:34 p.m. ▪ Secondary noise sources included distant traffic noise on Mulholland Highway, distant dog barking, and a nearby electric gate allowing resident vehicle access onto Lake Shore Drive.

Chart 3a.
Ambient Noise Measurement Summary: Location 3 (Malibou Lake Area); Afternoon (1:00–2:00 PM)

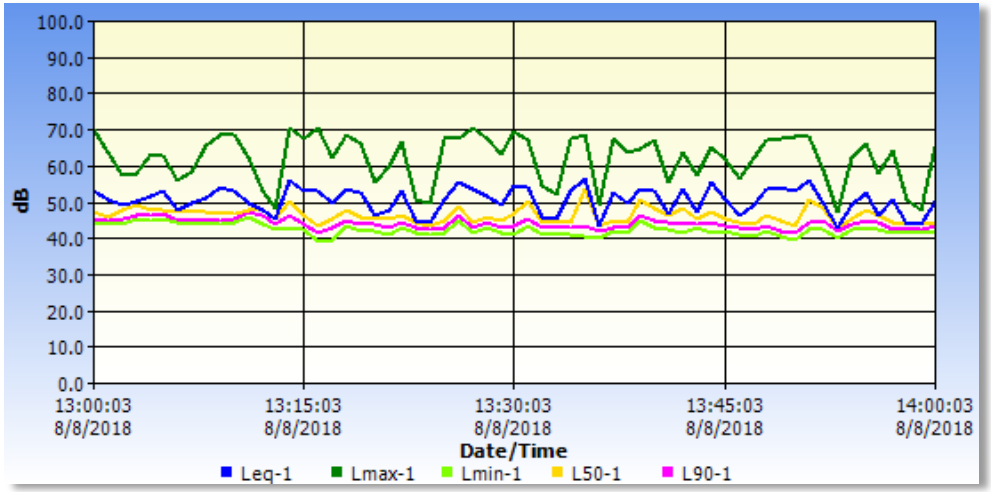
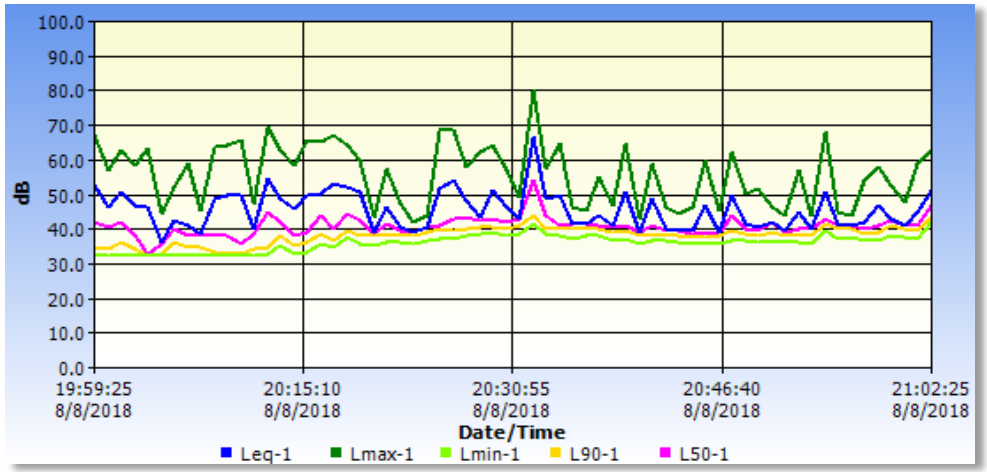


Chart 3b.
Ambient Noise Measurement Summary: Location 3 (Malibou Lake Area); Evening (8:00–9:00 PM)



Location 4: Topanga Canyon Area

This location includes two event facilities located on the west side of Topanga Canyon Boulevard. Residences are scattered along the both sides of Topanga Canyon Boulevard. While both residences and the event locations are located at a lower elevation than Topanga Canyon Boulevard, field observation found the selected ambient noise measurement location was representative of ambient levels at all receptors in the area due to the influence of Topanga Canyon Boulevard traffic on ambient noise conditions.

Ambient noise levels at this location are typical of suburban or quiet urban areas. Key noise source characterizing the ambient levels include traffic on Topanga Canyon Boulevard and wildlife calls. Due to high traffic volumes on Topanga Canyon Boulevard, ambient levels spikes due to intermittent impulse noise from vehicle trips were primarily limited to heavy trucks or vehicles with loud exhaust systems. As shown in Table A-2 and Chart 2a, the emergence of steady insect calls between 8:00–8:10 p.m. resulted in average ambient noise (Leq) and L90 levels being greater in the evening hours compared to afternoon conditions.

Table A-4. Ambient Noise Measurement Summary: Location 4 (Topanga Canyon Area)

Date/Time	Measurement (dBA)					Notes
	Lmin	Leq	Lmax	L90	L50	
August 9, 2018 1:00 p.m. – 2:00 p.m.	32.0	55.6	78.7	38.7	52.0	▪ The primary daytime noise source is vehicle traffic on Topanga Canyon Boulevard. Meter was approximately 100' from centerline. One–way traffic counts during the measurement period included: – Passenger Vehicles: ~1200 trips. – Large Trucks (UPS/FedEx, moving truck, school bus): ~20 trips. – Motorcycles: One motorcycle with loud performance exhaust system at 1:24 p.m. ▪ Secondary noise sources included street parking on Topanga Canyon Boulevard for nearby restaurant and bird calls.
August 9, 2018 8:00 p.m. – 9:00 p.m.	32.4	56.8	85.1	50.0	52.7	▪ Primary evening noise sources included insect calls and vehicle traffic Lake Vista Drive. Meter was approximately 100' from centerline. One–way traffic counts during the measurement period included: – Passenger Vehicles: ~800 trips. One loud performance exhaust system at 8:30 p.m. – Motorcycles: Three motorcycles in succession with loud performance exhaust systems at 8:55 p.m.

Chart 4a.
Ambient Noise Measurement Summary: Location 4 (Topanga Canyon Area); Afternoon (1:00–2:00 PM)

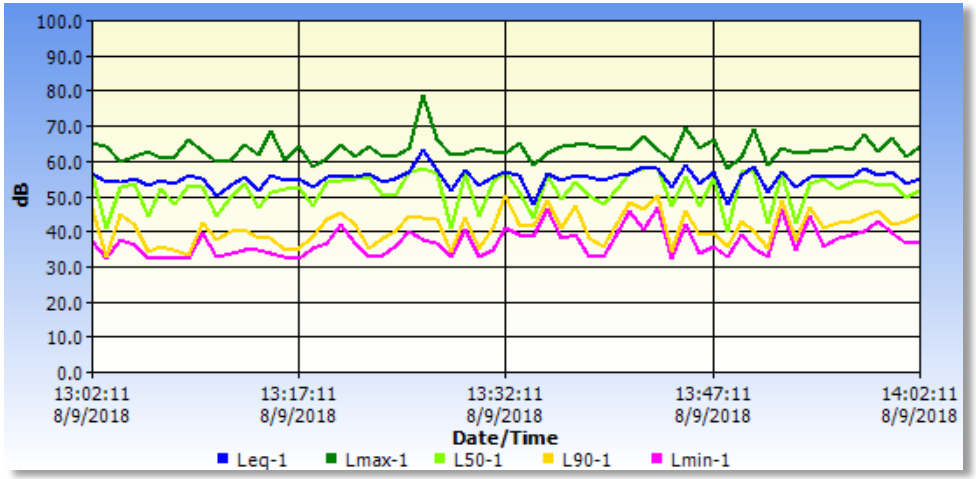
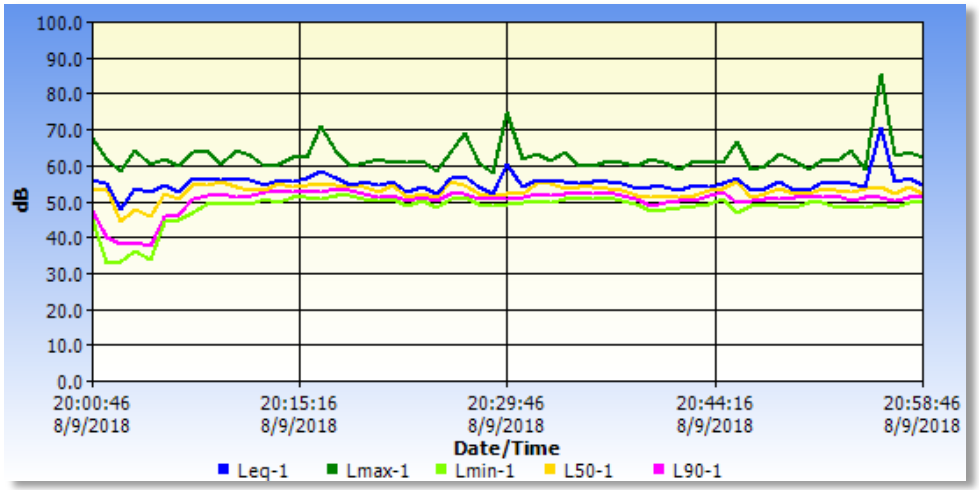



Chart 4b.
Ambient Noise Measurement Summary: Location 4 (Topanga Canyon Area); Evening (8:00–9:00 PM)