

TABLE OF CONTENTS

PLANNING COMMISSION MEETING September 7, 2021

FILE NUMBER: 700.01.03 and IS #2021-003
PROJECT PROPONENT: Lassen County
TYPE OF APPLICATION: General Plan Amendment and Initial Study

Memorandum to Planning Commission	001
Memorandum from Jonathan Leech, dated August 9, 2021	003
Draft 2019-2024 Noise Element	028
Draft Noise Ordinance (with edits from August 5, 2021, PC meeting).....	055



County of Lassen

Department of Planning and Building Services

• Planning • Building Permits • Code Enforcement • Surveyor • Surface Mining

August 19, 2021

Maurice L. Anderson, Director
707 Nevada Street, Suite 5
Susanville, CA 96130-3912
Phone: 530 251-8269
Fax: 530 251-8373
email: landuse@co.lassen.ca.us
website: www.co.lassen.ca.us

TO: Lassen County Planning Commission
Agenda Date: September 7, 2021

Zoning & Building
Inspection Requests
Phone: 530 257-5263

FROM: Maurice L. Anderson, Director

MHA for

RE: Draft Noise Element Update and Draft Noise Ordinance

This memo follows last month's memo to the Planning Commission from its August 3, 2021, meeting. The purpose of the current meeting is to provide the Planning Commission additional time to review the draft noise element and ordinance, as well as for staff (and the County's consultant) to address questions brought up by different members of the public.

Among other comments, questions regarding the "residential yard", the removal of the 1989 noise element's Table III, and off-road recreational vehicle noise limits presented concerns to some citizens. Attached with this memo from staff is the memorandum prepared by Jonathan Leech, the Dudek consultant for this project. Mr. Leech goes into more thorough detail in regard to the above questions, in addition to other concerns not in this staff memo.

Residential Yard

Mr. Leech explains that the "residential yard" applies to larger parcels, generally greater than 5 acres. He states that the

50-foot radius from the home is meant to reflect an outdoor use area most likely to be used/enjoyed by the residents, due to proximity of amenities/resources offered in the house itself (cooking, restrooms, etc.)... In practice, noise levels immediately outside of the 50-foot radius would not increase dramatically, due to [the] relationship of noise reduction with increasing distance.

Mr. Leech goes on to give several examples where as the size of the radius of the residential yard increases, the increase in sound is negligible.

Table III

In terms of concerns about the removal of Table III from the 1989 noise element, Mr. Leech states, "Table III does not need to be retained in the noise element in order for the court order involving Honey Lake Motocross to remain in effect. Table III is contained in the court order and can be referenced there in perpetuity." Mr. Leech further states, "The elimination of Table III from the noise element reflects an intent to simplify noise control in the County. Table III requires participation of an

acoustical engineer in every determination and frustrates the successful enforcement of noise policies due to unnecessary complication.” Again, the difficulty in using the 1989 element has resulted in both increased costs and slower processing times for project applicants.

Off-Road Recreational Vehicle Noise Limits

The proposed 82 decibel limit is the maximum allowable noise (L_{max}) in the draft ordinance per Section 9.65.060; however, in addition to that L_{max} , Section 9.65.040 additionally limits the one-hour average sound levels as well. This has been clarified in the ordinance; see Section 9.65.060 for more details.

Court Orders

The draft ordinance has been amended to specifically exempt any court orders that modify a use permit's noise components from the noise ordinance, as the court order would supersede the County's authority.

BACKGROUND:

As the advisory body to the Board of Supervisors, the Planning Commission has continued the public hearing from its August 5, 2021, meeting to consider the draft noise element update and noise ordinance. The Board of Supervisors will consider adoption of the draft noise element, ordinance, and their related negative declaration at a future date, taking into account any recommendation that the Planning Commission may make at this hearing.

The draft noise element and ordinance can be found at the following link:

<http://www.lassencounty.org/dept/planning-and-building-services/environmental-documents-noticing-and-attachments>.

MLA:smr

Enclosures: Memorandum from Jonathan Leech, dated August 9, 2021

S:/PLA/Admin/FILES/700.01.03/PC Memo ii

RECEIVED

AUG 09 2021

MEMORANDUMLASSEN COUNTY DEPARTMENT OF
PLANNING AND BUILDING SERVICES

To: Gaylon Norwood, Assistant Director of Planning & Building Services

From: Jonathan V. Leech, AICP, INCE

Subject: Responses to Public Comments Received on Lassen County Noise Element Update

Date: August 9, 2021

cc: Stefano Richichi

Attachment(s): OSHA Ear Protection Worksheet
Diane Fuller Comment Letter (Undated) – Received July 29, 2021
Mary Morgan Letter #1 (Dated July 27, 2021) – Received July 29, 2021
Mary Morgan Letter #2 (Dated July 27, 2021) – Received July 29, 2021
Phil Finkel Email (November 20, 2019)

Introduction

This memorandum presents written responses to the comments contained in letters received from the public on the Draft Noise Element Update, Draft Noise Ordinance, and Draft CEQA Initial Study/Negative Declaration. A copy of each received comment letter is attached to this memo, for easy reference during review of the responses.

Responses to Diane Fuller Comment Letter

Residential Yard – this term is applicable to larger parcel sizes, generally greater than approximately 5 acres, whether the home is in an agricultural or residential zone district. The 50-foot radius from the home is meant to reflect an outdoor use area most likely to be used/enjoyed by the residents, due to proximity of amenities/resources offered in the house itself (cooking, restrooms, etc.). This distance for definition of a residential yard or outdoor living area is used in multiple counties with large-parcel rural residences.

The definition of a 50-foot radius yard or outdoor living area around a rural residence establishes a noise measurement or noise modeling location at which noise from stationary noise sources in the vicinity must not exceed 65 dBA CNEL (or 65 dBA hourly L_{eq} during the daytime). In practice, noise levels immediately outside of the 50-foot radius would not increase dramatically, due to relationship of noise reduction with increasing distance. This is best demonstrated with a few examples.

Example 1 – The noise source is 300 feet from the 50-foot yard radius surrounding a residence. Assuming the noise at the source is controlled such that the noise level is exactly 65 dBA CNEL at the 50-foot residential yard boundary, the noise levels moving toward the noise source would be as follows (distances are relative to the house):

75 feet:	66 dBA CNEL
100 feet:	68 dBA CNEL
150 feet:	71 dBA CNEL

Example 2– The noise source is 1,750 feet from the 50-foot yard radius surrounding a residence (approximately 1/3 mile). Assuming the noise at the source is controlled such that the noise level is exactly 65 dBA CNEL at the 50-foot residential yard boundary, the noise levels moving toward the noise source would be as follows (distances are relative to the house):

75 feet:	65 dBA CNEL
100 feet:	65 dBA CNEL
150 feet:	65 dBA CNEL

Recreational vehicle noise limit – the 82 decibels is the maximum noise level (L_{max}), which provides further restriction in addition to the hourly average limits that are applicable to all noise sources affecting residential receivers. Assuming a background of 55 dBA without an 82 dBA sound source (i.e., motorcycle), and a receiver very close to the 82 dBA sound source, no more than 2 minutes of the motorcycle noise could occur in any given hour, and still comply with the 65 dBA L_{eq} hourly limit.

To remove potential confusion associated with the current wording regarding off-road recreational vehicle noise limits in Section 9.65.060 of the Noise Ordinance, the following language revision is proposed:

~~Notwithstanding~~ In addition to the general limitations on sound levels in section 040 [...]

EPA Recommended Noise Exposure Limit – The EPA noise level recommendation of no more than 70 dBA is based upon average (L_{eq}) and not maximum exposure. While recreational vehicle noise limits would be set at 82 dBA L_{max} , this is the limit at the source of the noise, and receivers (other than the vehicle operator) would not be exposed to this noise level. It should be noted that OSHA uses 85 dBA L_{max} as the threshold for requiring ear protection (ear plugs or headphones) for workers with the potential for long-term exposure.

OSHA Decibel Reference – During the Planning Commission Hearing August 3, 2021, Ms. Fuller asked for verification that each 1 dB change in noise level represented a 10-fold increase in sound energy. Ms. Fuller indicated she found this information on the OSHA website. It appears that Ms. Fuller misinterpreted the graphic provided by OSHA. In fact, each 10 dB increase in noise level represents a 10-fold increase in the sound energy. The OSHA pamphlet is attached at the end of this memo before the copies of comment letters received. The pamphlet may be found at the following URL:

https://www.osha.gov/sites/default/files/2018-12/fv10_sh-21001-10_Trainee_Worksheets-Ears.pdf

Responses to Mary Morgan Comment Letter #1

Background/History of Honey Lake Motocross Noise Limit Infractions. The history of the motocross track infractions is unfortunate. With respect to identifying an infraction, the noise element update and noise ordinance contain specifications regarding the content of required noise studies to address proposed developments, as well as to document exceedances of the new standards for which correction would be required.

Activities that would be addressed under a Special Use Permit, and which have the potential to generate elevated noise levels, are required under the proposed Noise Element Update to perform a detailed noise analysis to support appropriate environmental review under CEQA, and to specify noise controls, as necessary, to achieve compliance with the noise element and noise ordinance.

Noticeable Change in Ambient (Community) Noise Levels. The comment does correctly reference that a 3 dBA increase in noise levels does represent a doubling of the related sound energy, but that in an outdoor environment, an increase of 5 dBA is required in order for the change to be readily noticeable to most members of the public.

The noise element update does propose to relax the exterior noise exposure standard to an existing level of 60 dBA CNEL to 65 dBA CNEL. A 5 dBA increase in the ambient noise level would be considered readily noticeable to most members of the public but would not approach levels considered potentially harmful by the EPA, OSHA, or California Governors Office of Planning and Research (OPR). Many rural communities use this standard, and it is consistent with FAA standards for airport exposure, is less than the Caltrans standard for roadway noise exposure, and still allows the interior standard of 45 dBA CNEL to be achieved. For comparison, normal speech between 2 people 3 feet apart ranges from 60 - 65 dBA.

Elimination of Table III From Noise Element. The elimination of Table III from the noise element reflects an intent to simplify noise control in the County. Table III requires participation of an acoustical engineer in every determination and frustrates the successful enforcement of noise policies due to unnecessary complication. The elimination of Table III has no effect upon existing special use permits or court orders that specifically reference Table III.

90 DBA CNEL limit in Agriculture Zones. Table 7 does indicate a noise limit of 90 dBA in Agriculture zones, but a footnote to the table explains that noise levels within agriculture zones are also governed by an exposure limit of 65 dBA CNEL at residential property boundaries, or at the defined "residential yard area" of residences within the Agriculture zone itself.

Agriculture operations in the County are largely limited to grazing, with some cultivation of row crops and hay that involve the use of tractors or combines. Agriculture activities are proposed to exempt from noise limits in the draft noise element and draft noise ordinance. But mineral extraction operations are often located in Ag zones, with a special use permit or conditional use permit. Such uses could generate excessive noise, which would be subject to the 90 dBA CNEL maximum (within Ag zoned lands and excluding residential receivers). The SUP or CUP could further limit the noise generation.

Noise Measurement Location for Enforcement of Standard N-1. Standard N-1 is governed by 9.65.030 (Sound Level Measurement) of the noise ordinance, which removes any potential ambiguity as to the location and method of noise measurement.

Residential yard defined for larger lot sizes. In areas characterized by multiple acre lots, typically surrounded by agriculture area, it is not practical to establish noise controls that guarantee a quiet experience at any point within the parcel. A residential yard is therefore defined for parcel size greater than approximately 5 acres, whether the home is in an agricultural or residential zone district. The 50-foot radius from the home is meant to reflect an outdoor use area most likely to be used/enjoyed by the residents, due to proximity of amenities/resources offered in the house itself (cooking, restrooms, etc.). This distance for definition of an outdoor space is used in multiple counties with rural residences. Please refer to the response to the "Residential Yard" comment from Diane Fuller's letter (above) for additional explanation.

Honey Lake Motocross Description / Zoning. The motocross property "overall" is considered a stationary source, as the moto-cross activity does not travel around the county over time to operate at different locations. This point source is generally identified as "commercial" because visitors are charged to use the track (a commercial enterprise) regardless of the zoning on the property.

Superior Court Order and Retention of Table III in the Noise Element. Table III does not need to be retained in the noise element in order for the court order involving Honey Lake Motocross to remain in effect. Table III is contained in the court order and can be referenced there in perpetuity.

Comments on Negative Declaration. The EPA has no finding of detrimental health effects associated with exterior noise exposure levels up to 65 dBA CNEL; numerous Cities and Counties in California have adopted 65 dBA CNEL as the exterior noise limit for residential uses.

While the change from 60 dBA CNEL to 65 dBA CNEL exterior exposure could be noticeable, it would be neither significant nor detrimental to health of the public. Noise level increases over existing conditions are also theoretical, changing the allowance would not alter existing transportation sources, for example.

An EIR must be prepared if significant impacts have been identified that CANNOT be reduced to less than significant. A simple increase in the exterior noise exposure limit to levels that are consistent with the standards of other agencies does not constitute a significant impact.

Significant impacts are not anticipated because:

1. The increase in the *allowance* of exterior noise exposure will not directly lead to the increase in existing ambient noise levels.
2. The simplification of the policies in the noise element will enhance their understanding by the public and planning staff, and encourage more uniform enforcement.
3. The noise ordinance provides a level of detail not available previously, to support compliance and enforcement efforts.
4. The language in the noise element and ordinance do not supersede existing noise restrictions or performance standards contained in special use permits or court-ordered noise controls. In addition, the proposed updates will not preclude the County from adopting more stringent noise performance standards in a special use permit, based on the findings of a noise analysis that greater restrictions are appropriate to avoid noise nuisance.

Responses to Mary Morgan Comment Letter #2

Off-road recreational vehicle. This definition is consistent with DMV. Private road does NOT include commercial motocross track.

Residential Yard Definition. The 50-foot radius for yard is practical, based on resources in the home to support outdoor enjoyment. Please refer to the response to the “Residential Yard” comment from Diane Fuller’s letter (above) for additional explanation.

Recreational vehicle noise limit. Please refer to the response to the “recreational vehicle noise limit” comment from Diane Fuller’s letter (above).

65 dBA residential noise level limits. 65 dBA CNEL is the 24-hour weighed average. The noise limits in Table 1 of the noise ordinance are hourly average limits (L_{eq}); 65 dBA L_{eq} during the day, 60 in the evening, and 55 overnight equals the 65 dBA CNEL limit, with increasing restrictions in the evening and overnight.

Responses to Phil Finkel Email

Barking Dogs and Noise from Modified Motor Bikes – The draft Noise Ordinance (Municipal Code Section 9.65.050) prohibits annoying noise levels associated with domesticated animals. With regard to kept animals, the following prohibition applies:

Owning, possessing or harboring an animal which by any frequent or long continued noise causes annoyance or discomfort to a person of normal sensitivity to noise in the vicinity. The written affirmation by three persons as described by Section 8.08.030(b) of the Lassen County Code shall be deemed prima facie evidence of a violation of this section. This subsection does not apply to animal noise emanating from a legally operated animal hospital, humane society, County Department of Animal Services facility, farm or other agricultural facility where keeping animals is allowed.

The exemption for animal noise in an agricultural zone is intended to apply to the keeping of livestock; dogs being kept in an agriculture zone must not be allowed to uncontrollably bark, or otherwise create a nuisance noise for residential neighbors.

With regard to motorcycles, the noise ordinance (Municipal Code Section 9.65.060) restricts all off-road recreational vehicle noise as follows:

In addition to the general limitations on sound levels in section 040, and unless otherwise allowed by an approved Use Permit, no person shall operate or allow the operation of an off-road recreational vehicle on private property that produces a noise when measured at the boundary line of any residentially zoned property, or at the residential yard of any occupied property where the noise is received, that at any time exceeds the following maximum sound levels: 82 decibels between the hours of 7 a.m. and 7 p.m., 77 decibels between the hours of 7 p.m. and 10 p.m. and 55 decibels between the hours of 10 p.m. and 7 a.m.

The above additional restriction means that recreational vehicle activity must meet the daytime hourly average limit of 65 dBA L_{eq} at any residential yard in the vicinity of the motorcycle use, but also must not generate instantaneous (L_{max}) levels that exceed 82 dBA during the day, 77 dBA L_{max} in the evening, and 55 dBA L_{max} overnight. These restrictions, if adopted, would be enforceable by the County Sheriff and/or County Noise Control Officer.

Discharging of Firearms. Any proposed shooting facility or firearm target range would be governed by a special use permit or conditional use permit, and would be restricted to ensure that exterior noise levels at residences that could be affected by facility operation noise not exceed 65 dBA CNEL, as well as the hourly limits in Table 7 of the noise ordinance. Noise ordinances typically do not attempt to regulate incidental uses and activities that are allowed under the zoning ordinance for each zone district. Prohibiting the recreational discharge of firearms in residential zones, if desired, would probably best be addressed through revision of the zoning ordinance.

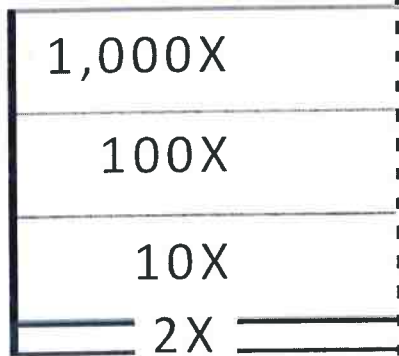
ATTACHMENTS

How Do We Protect Our Ears?

Worksheet #1

Measure dBs

Cut or tear along the dotted line.
Align marks with dBs on scale
to estimate dB increases
2 to 1,000 times greater.



For The Adventurous!

Use the formula below to figure
size difference of any two dBs

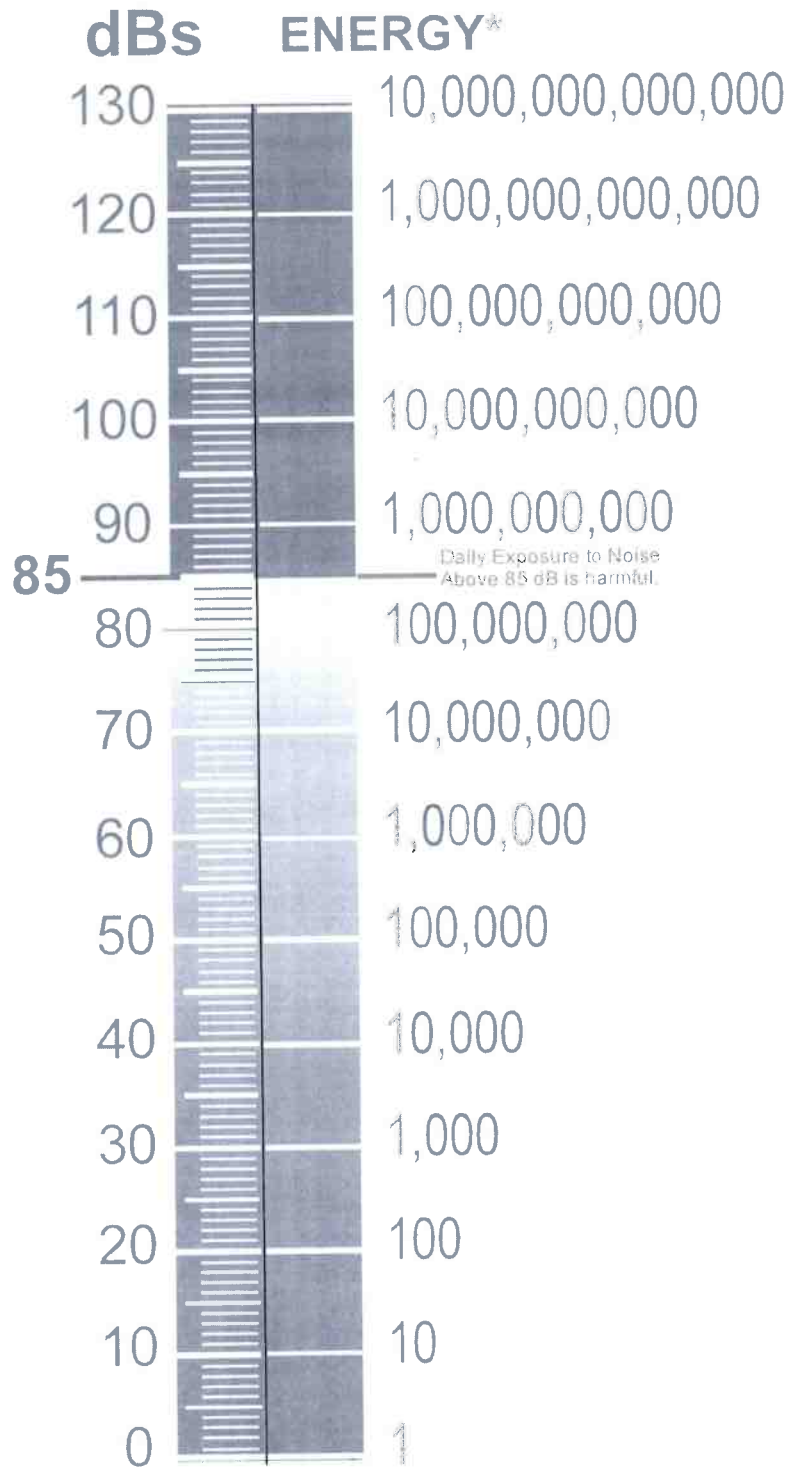
1. Subtract smaller dB from larger dB
2. Divide answer by 3
3. Use the result as the exponent of 2

For example, how much
more energy is 96dB than
is 81 dB?

1. $96 - 81 = 15$
2. $15/3 = 5$
3. $2^5 = 2 \times 2 \times 2 \times 2 \times 2 = 32$

96 dB has 32 times
more energy than 81 dB.











NOISE ENERGY



*Relationship sound Energy in dBs and
in Watts/Meter² from 10^{-12} to 10^{13}

How Do We Protect Our Ears?

Worksheet #2







Equipment	Equipment dB	Preferred* dB	dB Difference	How Much Louder	Damage Risk
	105 dB	80 dB			
	112 dB	80 dB			
	102 dB	80 dB			
	101 dB	80 dB			
	88 dB	80 dB			
	89 dB	80 dB			
	94 dB	80 dB			
	91 dB	80 dB			
	100 dB	80 dB			
	90 dB	80 dB			

*NIOSH recommends keeping exposures at or below 80 dB. NIOSH has determined that daily exposures above 85 dB may be harmful to health. OSHA uses 85 dB as the "action level" at which an employer must establish a Hearing Protection Plan. FOF

How Do We Protect Our Ears?

Selecting Quieter Mowers.

The table below provides brand, model, published price, and noise levels of mowers. For noise levels for the operator above 85 dBA (color code red), hearing protection must be offered and worn. Between 80 and 85 dBA, hearing protection is advisable if your exposure is unusually long, or if you engage in other loud activities throughout the day. For noise under 82 dBA, hearing protection is not required but may be used.

 Hearing Protection is not required but may be used.		 Hearing Protection Recommended.		 Hearing Protection must be offered and worn.			
	Brand	Type	Model	Price	Noise @ Operator	Noise @ 25 feet	# of 60 dBA Electric Mowers to which noise is equivalent
	McLane*	Reel Mower17"	Front Throw	\$200	63	54	0.25
	Brill/Sun Lawn	Reel Mower	Luxus 38	\$200	68	55	0.31
	Brill/Sun Lawn*	Cordless Elec Reel	380 ASM	\$350	68	56	0.40
	Silent Reel	Reel Mower		\$249	74	58	0.63
	Neuton*	Electric-Cordless	EM 4.1	\$400	77	59	0.79
	American	Reel Mower		\$130	76	60	1.00
	Yard Machines	Electric-Corded	13 inch	\$200	79	60	1.00
	Black & Decker*	Electric-Cordless	CMM 1000	\$464	79	62	1.59
	Electric Ox	Electric Riding		\$7,500	82	63	2.00
	Black & Decker*	Electric-Corded	MM875	\$244	80	64	2.52
Ariens*	Gas-Self Prop	911097	\$470	82	72	17.00	
	Honda*	Gas-Self Prop	HRX217HXA	\$700	84	74	27.00
	Bolens*	Electric-corded	18A-V17-765	\$190	85	74	27.00
	Toro*	Gas-Self Prop	PP Recycler 20031	\$420	85	74	28.00
	Murray*	Gas-Push	225112X92A	\$155	84	75	30.00
	Craftsman*	Gas-Self	37910	\$280	84	75	30.00
	Murray*	Gas-Self Prop	226111X92A	\$215	85	75	34.00
	Craftsman*	Gas-Push	38746	\$200	86	75	32.00
	Toro*	Gas-Push	20008	\$350	86	75	34.00
	Craftsman*	Gas-Self Prop	37778	\$330	86	75	34.00
	Craftsman*	Gas-Self Prop	37855	\$330	86	75	35.00
	Craftsman*	Gas-Self Prop	37784	\$400	85	76	37.00
	Yard-Man*	Gas-Self Prop	12A978Q	\$400	85	76	38.00
	Yard-Man*	Gas-Self Prop	12A445E755	\$260	87	76	38.00
	Lawn-Boy*	Gas-Self Prop	Gold Series 10655	\$400	87	76	38.00
	MTD*	Gas-Push Pro	11A588Q	\$200	88	76	38.00
	Craftsman*	Gas-Push	38855	\$229	89	74	34.00
	Bolens*	Gas-Push	11A-584E765	\$170	89	76	41.00
	Yard-Man*	Gas-Self Prop	DLX 12A567A	\$300	88	77	49.00
	Craftsman*	Gas-Self Prop	37894	\$280	88	77	50.00
	Troy-Bilt*	Gas-Self Prop	TuffCut 230	\$400	89	77	50.00
	Yard-Man*	Gas-Push	11A435D775	\$190	89	77	50.00
	Bolens*	Gas-Push	11A084C163	\$170	88	77	53.00
	Husqvarna*	Gas-Self Prop	55R21HV	\$480	86	78	57.00
	Snapper*	Gas-Self Prop	RP215517HC	\$660	91	63	80.00
	Snapper*	Gas-Push	MR216517B	\$410	90	80	102.00
	Husqvarna*	Gas-Self Prop	5521CHV	\$350	91	82	150.00

Data sources: Noise Pollution Clearinghouse and Consumer Reports

*Evaluated by Consumer Reports in the June 2004 issue

Chain Saw Noise Levels

Fuel	Brand	Model	HP	Cost	Rank how well saw cut	25 foot with load Lmax (dBA)	25 foot no load Lmax (dBA)	Operator with load Leq (dBA)	Operator with load Lmax (dBA)	Operator no load Leq (dBA)	Operator no load Lmax (dBA)
Electric	Makita	Battery		\$198	15	61	61	79	81	79	80
Electric	Neuton	Battery		\$100	14	66	67	83	84	82	83
Electric	Husquavarna	316		\$229	2	71	71	90	92	92	94
Electric	Makita	UC4000		\$199	1	75	77	92	95	93	95
Electric	McCulloch		1.5	\$40	13	77	79	94	98	95	96
Electric	Remington		3	\$85	10	78	80	98	99	97	100
Electric	Remington		1.5	\$55	11	79	81	96	99	93	95
Electric	Troybuilt		3.5	\$90	5	80	82	95	98	94	97
Electric	Poulan		2	\$50	6	81	86	100	102	96	99
Electric	Craftsman		2.5	\$50	9	81	86	101	102	97	97
Electric	Poulan		3.5	\$80	4	81	87	97	100	98	101
Electric	Remington	Pole	1.25	\$110	12	81	87	98	101	97	99
Electric	Craftsman	Saw	3.5	\$80	8	83	86	97	99	98	101
Electric	Poulan		4	\$100	3	83	87	98	101	98	102
Electric	Poulan	Pro	3	\$60	7	84	86	99	101	97	100
Gas	Husquavarna					86	88	102		106	
Gas	Poulan	261				85	92	107	109	109	112
Gas	Jonserud	2775				91	98	111	114	115	117
Gas	Jonserud	Turbo 2171				NA	97	110	114	112	116

dBA Exposure Calculator

% of 100% exposures, based on NIOSH 3dBA doubling

85 dBA NIOSH level for PPE use corresponds to OSHA 85 dBA action Level
in landcare industries OSHA requires exposure control, which may include PPE, at 85 dBA for an 8-hour TWA

Protection not required but may be used. Protection is recommended. Protection must be offered and worn.

dBA	Hours														
	.25	.50	1	2	3	4	5	6	7	8	9	10	11	12	13
80	.5	1.0	2.0	4.0	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0	22.0	24.0	26.0
81	.7	1.3	2.5	5.0	7.6	10.1	12.6	15.1	17.6	20.2	22.7	25.2	27.7	30.2	32.8
82	.8	1.6	3.2	6.3	9.5	12.7	15.9	19.0	22.2	25.4	28.6	31.7	34.9	38.1	41.3
83	1.0	2.0	4.0	8.0	12.0	16.0	20.0	24.0	28.0	32.0	36.0	40.0	44.0	48.0	52.0
84	1.3	2.5	5.0	10.1	15.1	20.2	25.2	30.2	35.3	40.3	45.4	50.4	55.4	60.5	65.5
85	1.6	3.2	6.3	12.7	19.0	25.4	31.7	38.1	44.4	50.8	57.1	63.5	69.8	76.2	82.5
86	2.0	4.0	8.0	16.0	24.0	32.0	40.0	48.0	56.0	64.0	72.0	80.0	88.0	96.0	104.0
87	2.5	5.0	10.1	20.2	30.2	40.3	50.4	60.5	70.6	80.6	90.7	100.8	110.9	121.0	131.0
88	3.2	6.4	12.7	25.4	38.1	50.8	63.5	76.2	88.9	101.6	114.3	127.0	139.7	152.4	165.1
89	4.0	8.0	16.0	32.0	48.0	64.0	80.0	96.0	112.0	128.0	144.0	160.0	176.0	192.0	208.0
90	5.4	10.8	20.2	40.3	60.5	80.6	100.8	121.0	141.1	161.3	181.4	201.6	221.7	241.9	262.1
91	6.4	12.7	25.4	50.8	76.2	101.6	127.0	152.4	177.8	203.2	228.6	254.0	279.4	304.8	330.2
92	8.0	16.0	32.0	64.0	96.0	128.0	160.0	192.0	224.0	256.0	288.0	320.0	352.0	384.0	416.0
93	10.5	20.1	40.3	80.6	121.0	161.3	201.6	241.9	282.2	322.5	362.9	403.2	443.5	483.8	524.1
94	12.7	25.4	50.8	101.6	152.4	203.2	254.0	304.8	355.6	406.4	457.2	508.0	558.8	609.6	660.4
95	16.0	32.0	64.0	128.0	192.0	256.0	320.0	384.0	448.0	512.0	576.0	640.0	704.0	768.0	832.0
96	20.1	40.3	80.6	161.3	241.9	322.5	403.2	483.8	564.4	645.1	725.7	806.3	887.0	967.6	1048.3
97	25.4	50.8	101.6	203.2	304.8	406.4	508.0	609.6	711.2	812.7	914.3	1015.9	1117.5	1219.1	1320.7
98	32.0	64.0	128.0	256.0	384.0	512.0	640.0	768.0	896.0	1024.0	1152.0	1280.0	1408.0	1536.0	1664.0
99	40.3	80.6	161.3	322.5	483.8	645.1	806.3	967.6	1128.9	1290.2	1451.4	1612.7	1774.0	1935.2	2096.5
100	50.8	101.6	203.2	406.4	609.6	812.7	1015.9	1219.1	1422.3	1625.5	1828.7	2031.9	2235.1	2438.2	2641.4
101	64.0	128.0	256.0	512.0	768.0	1024.0	1280.0	1536.0	1792.0	2048.0	2304.0	2560.0	2816.0	3072.0	3328.0
102	80.6	161.3	322.5	645.1	967.6	1290.2	1612.7	1935.2	2257.8	2580.3	2902.9	3225.4	3547.9	3870.5	4193.0
103	101.6	203.2	406.4	812.7	1219.1	1625.5	2031.9	2438.2	2844.6	3251.0	3657.4	4063.7	4470.1	4876.5	5282.9
104	128.0	256.0	512.0	1024.0	1536.0	2048.0	2560.0	3072.0	3584.0	4096.0	4608.0	5120.0	5632.0	6144.0	6656.0
105	161.3	322.5	645.1	1290.2	1935.2	2580.3	3225.4	3870.5	4515.6	5160.6	5805.7	6450.8	7095.9	7741.0	8386.0
106	203.2	406.4	812.7	1625.5	2438.2	3251.0	4063.7	4876.5	5689.2	6502.0	7314.7	8127.5	8940.2	9753.0	10565.7
107	256.0	512.0	1024.0	2048.0	3072.0	4096.0	5120.0	6144.0	7168.0	8192.0	9216.0	10240.0	11264.0	12288.0	13312.0
108	322.5	645.1	1290.2	2580.3	3870.5	5160.6	6450.8	7741.0	9031.1	10321.3	11611.4	12901.6	14191.8	15481.9	16772.1
109	406.4	812.7	1625.5	3251.0	4876.5	6502.0	8127.5	9753.0	11378.5	13004.0	14629.5	16255.0	17880.5	19506.0	21131.5
110	512.0	1024.0	2048.0	4096.0	6144.0	8192.0	10240.0	12288.0	14336.0	16384.0	18432.0	20480.0	22528.0	24576.0	26624.0
111	645.1	1290.2	2580.3	5160.6	7741.0	10321.3	12901.6	15481.9	18062.2	20642.5	23222.9	25803.2	28383.5	30963.8	33544.1
112	812.7	1625.5	3251.0	6502.0	9753.0	13004.0	16255.0	19506.0	22757.0	26008.0	29259.0	32510.0	35761.0	39012.0	42263.0
113	1024.0	2048.0	4096.0	8192.0	12288.0	16384.0	20480.0	24576.0	28672.0	32768.0	36864.0	40960.0	45056.0	49152.0	53248.0
114	1290.2	2580.3	5160.6	10321.3	15481.9	20642.5	25803.2	30963.8	36124.5	41285.1	46445.7	51606.4	56767.0	61927.6	67088.3
115	1625.4	3251.0	6502.0	13004.0	19506.0	26008.0	32510.0	39012.0	45514.0	52016.0	58518.0	65019.9	71521.9	78023.9	84525.9

How Do We Protect Our Ears?

Ear Protection Selection Guide

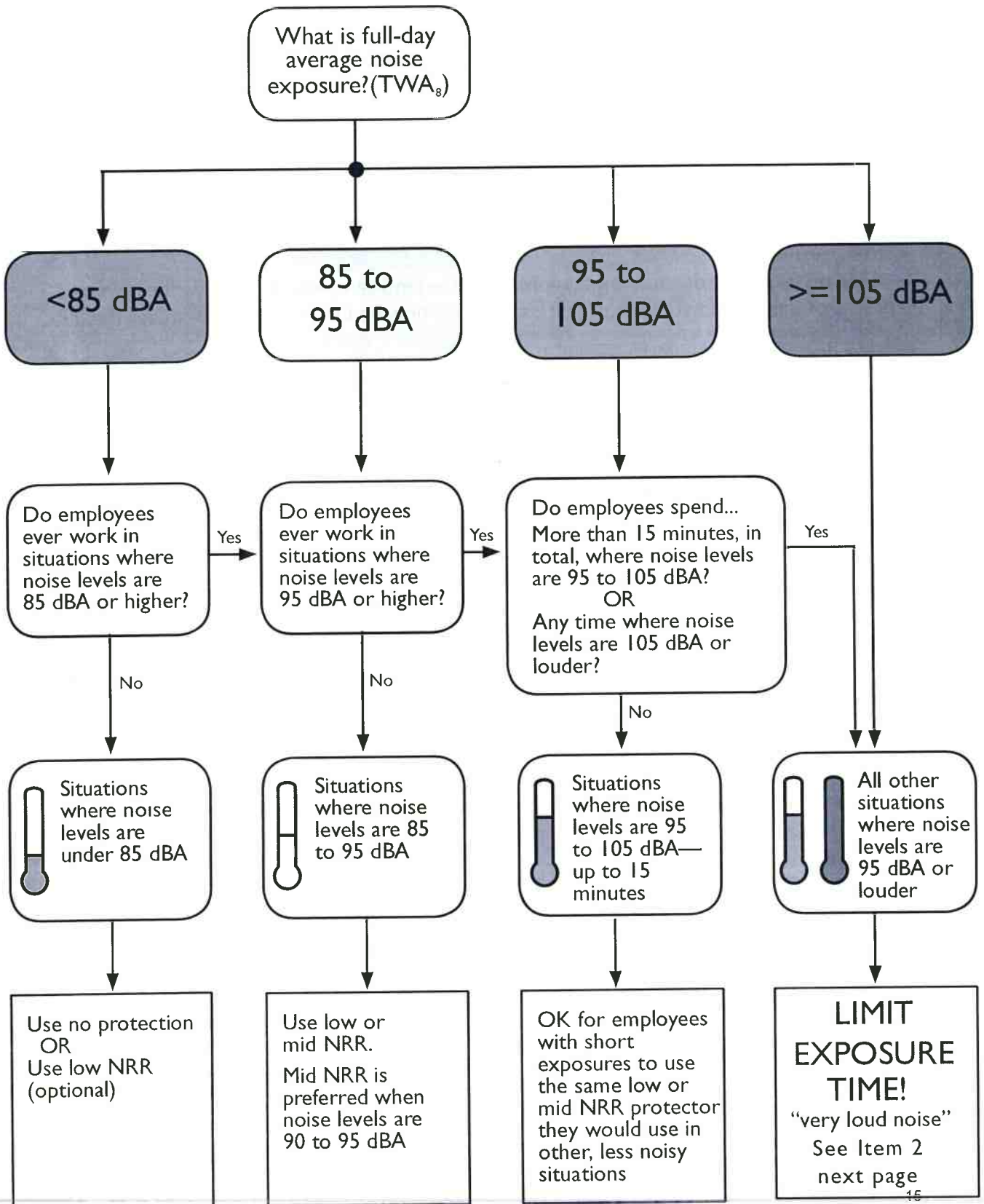
Your daily exposure to occupational noise helps determine your risk of hearing loss. Generally, the higher the decibels, the greater the risk. OSHA's noise standard for landcare is 85 dB (decibels) over an 8-hour work-day. 80 dB is the standard recommended by the National Institute for Occupational Safety and Health (NIOSH). At OSHA's level, 25 in every 100 workers will experience hearing loss over a working lifetime. At the NIOSH level of 80 dB in 8 hours, only 3 or 4 of every 100 workers will experience hearing loss over a working lifetime.

The table displays dBs for common equipment of the land care industry with various types of hearing protection. Find equipment you use and see how hearing protection reduces the dBs.

Tools/Equipment	No Protection	Formable Plugs	Foam Plugs	Muffs	Muffs+ Plugs
Air Compressor	92 dB	84 dB	79 dB	73 dB	67 dB
Background Noise	83 dB	75 dB	70 dB	64 dB	58 dB
Grinder 4 1/4"	93 dB	85 dB	80 dB	74 dB	68 dB
Hammer Drill 1/4" bit	94 dB	86 dB	81 dB	75 dB	69 dB
Bob Cat S850 (operator)	88 dB	80 dB	75 dB	69 dB	63 dB
Bob Cat S850 (outside)	104 dB	96 dB	91 dB	85 dB	79 dB
Chain Saw (battery)	92 dB	84 dB	79 dB	73 dB	67 dB
Chain Saw (gas)	112 dB	104 dB	99 dB	93 dB	87 dB
Demo Saw 14" (gas)	113 dB	105 dB	100 dB	94 dB	88 dB
Hedge Trimmer (gas)	88 dB	80 dB	75 dB	69 dB	63 dB
Leaf Blower Hand Held	102 dB	94 dB	89 dB	83 dB	77 dB
Leaf Blower Backpack	104 dB	96 dB	91 dB	85 dB	79 dB
Leaf Vacuum w Tractor	104 dB	96 dB	91 dB	85 dB	79 dB
Mower Ride On (electric)	82 dB	74 dB	69 dB	63 dB	57 dB
Mower Ride On (gas)	94 dB	86 dB	81 dB	75 dB	69 dB
Mower Stand On (gas)	94 dB	86 dB	81 dB	75 dB	69 dB
Mower Walk Behind (gas)	88 dB	80 dB	75 dB	69 dB	63 dB
Mulcher (gas)	91 dB	83 dB	78 dB	73 dB	67 dB
Oxyacetylene Cutting	81 dB	73 dB	68 dB	62 dB	56 dB
Weed Whacker	100 dB	92 dB	87 dB	81 dB	75 dB
Wood Chipper	105 dB	97 dB	92 dB	86 dB	80 dB

The values in Column 2 are based on noise measurements from a variety of manufacturer and researcher sources. The values for each type of hearing protection are based on Noise Reduction Rating formulas developed by the National Institute for Occupational Safety and Health (NIOSH). Neither of these measurements may accurately reflect your noise exposures or protection factors. These depend on workplace monitoring of workers and the effectiveness of your employer's hearing protection program.


Step-by-step guidelines for selecting appropriate hearing protection



How Do We Protect Our Ears?


Ear Protection Selection Guide

1. Guidelines for choosing hearing protection

	Noise level (dBA)	Signal words	Hearing protection	Comments
	115 or higher	Level A Danger	Use double protection or maybe high NRR ^{1,2}	High NRR can be OK for short exposures (less than 15 minutes) ³
	105 to 115	Level B Danger	Use high NRR or maybe double protection	Mid NRR can be OK for short exposures (less than 15 minutes) ³
	95 to 105	Level C Warning	Use high NRR	Low or mid NRR can be OK for short exposures (less than 15 minutes) ³
	85 to 95	Level D Caution	Do not over-protect Use low or mid NRR	Mid NRR is better than low, if noise levels are usually 90 to 95 dBA
	Under 85	Level E Notice	Hearing protection is optional	Low NRR is adequate for optional use

2. Guidelines for choosing hearing protection for **very loud noise!**

If the total amount of time spent in very loud noise during one day is...

		1 hour or longer	15 minutes to 1 hour	No more than 15 minutes
	Level A 115 dBA or higher	Use double protection ¹	Use double protection	Use high NRR protection
	Level B 105 to 115 dBA	Use double protection	Use high NRR Consider double protection	Mid NRR can be OK ³
	Level C 95 to 105 dBA	Use high NRR Consider double protection ²	Mid NRR can be OK ³	Low NRR can be OK ³

¹ Double protection = ear muffs plus ear plugs, together ² Noise Reduction Rating (NRR): Low NRR < 17 dB; Mid NRR 17-24 dB; High NRR 24+ dB
³ It is OK to use the lower level of protection shown in the figure if...

- a The total amount of time and the typical noise levels are not both in the upper end of the range shown on previous page
- b Exposure occurs as brief exposures spread out over the work shift and not continuously or within a short period of time
- c The situation does not involve a lot of impact noise
- d The employee will not be exposed to noise for a large part of the rest of the shift.

How To Wear Soft Foam Earplugs

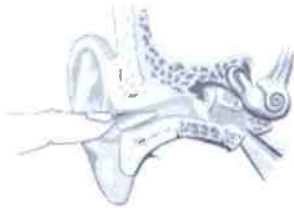
To get the best protection from your soft foam earplugs, remember to roll , pull , and hold when putting them in. Use clean hands to keep from getting dirt and germs into your ears!



1. **Roll** the earplug up into a small, thin "snake" with your fingers. You can use one or both hands.



2. **Pull** the top of your ear up and back with your opposite hand to straighten out your ear canal. The rolled-up earplug should slide right in.



3. **Hold** the earplug in with your finger. Count to 20 or 30 out loud while waiting for the plug to expand and fill the ear canal. Your voice will sound muffled when the plug has made a good seal.

Check the fit when you're all done. Most of the foam body of the earplug should be within the ear canal. Try cupping your hands tightly over your ears. If sounds are much more muffled with your hands in place, the earplug may not be sealing properly. Take the earplug out and try again.

Diane Fuller
PO Box 182
Milford, CA 96121

Lassen County Department of Planning and Building Services
ATT: Planning Commission
707 Nevada Street Suite 5
Susanville, CA 96130

Subject: Lassen County Noise Ordinance Draft of July 2021

The terms "Residential Yard" or "Yard" (on page 2) are ambiguous indicating a restriction for noise pollution concerns to a specific size of a 50 foot radius. And that would apply to homes on agriculture properties also. Really? How does one restrict noise? How was that size chosen?

Page 5 indicates off road recreational vehicles could have a maximum sound of 82 decibels between 7 am and 7pm. 82 decibels is louder than the decibel level according to the draft that lists 65 decibels.

EPA sets noise levels at 70 decibels for a reason - to prevent unintentional damage to sensory cells in ones cochlea. Damage to these cells is unrepairable and irreversible.

Please consider these concerns before approving the Draft of the July 2021 Lassen County Noise Ordinance.

Sincerely submitted,



Diane Fuller

RECEIVED

JUL 29 2021

LASSEN COUNTY DEPARTMENT OF
PLANNING AND BUILDING SERVICES

RECEIVED

JUL 29 2021

Mary A. Morgan
P.O. Box 98
Milford, CA 96121

LASSEN COUNTY DEPARTMENT OF
PLANNING AND BUILDING SERVICES

July 27, 2021

Lassen County Department of
Planning and Building Services
ATTN: Planning Commissioners
707 Nevada Street, Suite 5
Susanville, CA 96130

SUBJECT: Lassen County Noise Element Draft July 2021

Maurice L. Anderson, Planning Commission Secretary:

I would like to share with you some background of my personal experiences with noise and noise nuisances associated with Use Permit Number 2001-27 for a Commercial Moto-Cross track located in Milford, Lassen County, which was adopted without any conditions of approval dealing with noise and the Noise Element of the General Plan.

Anyone who has been subjected to noise from dirt bikes would be compelled to ask themselves "How did this Happen?" The noise was so loud that we could not enjoy our back yard and property; the noise entered our home while the big hill was being used and the dirt bikes were racing off the designated track and closer to our property. The PA system blasted loud noise whenever they the owners chose to do so, any day any time. I could go on and on with examples. Not very many Lassen County citizens would accept the fact that the county would bypass their own adopted Noise Element in favor of an applicant's Use Permit without some form of scrutiny and to consider the California Environmental Quality Act (CEQA) laws and policies. I stated this in my appeal letter to the Board on July 9, 2002. "I saw another Use Permit that involved noise where Table III was cited, it was a mining related one." I certainly would not want someone else in Lassen County to experience what we did with a noise related Use Permit. Well things can get overlooked and they did.

The county proceeded to amend the original Use Permit #2001-27, however they did not have a provision to do so. It took a lot of work to convince the County to have the applicant apply for a new Use Permit. The new Use Permit 2002-17 was adopted and we appealed the Planning Commission's decision on May 1, 2002, to adopt a Mitigated Negative Declaration and approve Use Permit #2002-17. The two main reasons for the appeal was the lack of adequate environmental analysis for the proposed project and the project's potential conflict with the Lassen County General Plan and Zoning Ordinance. The project was in violation of the original permit as we provided substantial evidence from our noise consultant's monitoring that the project exceeded the noise levels (Table III) of the Noise Element, and there were several other conditions of operations that was in violation. The sound studies that we

provided that were measured during the races exceeded the limit for all of the descriptors given in Table III of the Noise Element. The impact was significant and completely out of conformance with the requirement of the General Plan. The applicant provided inadequate sound studies from an individual that was lacking the proper certifications and not using the correct metering system. Then he hired a noise consultant that wrote the current Noise Element.

To sum it up the Board of Supervisors has the ability to be a powerful political force.

Our only option was the legal route due to the noise nuisance and that was to take the applicant and the county to court because they did not follow CEQA laws in preparing an Environmental Impact Report (EIR). This court battle went on for several years from June 5, 2003, as we were in and out of the court room numerous times until the last court date of May 12, 2008 when the judge determined that the owners of the Park were charged with hundreds of violations of an injunction. The injunction was modified to here in after adopt "paragraph 13 of Use Permit #2002-017, as its noise standard."

The following is in reference to the existing Noise Element 1989, and the Noise Element draft document July 2021. Listed below are my concerns.

Reference is made to page 4. of the July 2021 Draft document; **Understanding Noise:** "Because sound is measured on a logarithmic scale, a doubling of sound energy results in a 3 dBA increase in the noise level." "A 5 dBA increase is readily noticeable." "This statement refers to the EPA Public Health and Welfare Criteria for Noise. July 27, 1973."

The current Lassen County Noise Element dated December 12, 1989 states on page 20. Paragraph 3.

"Areas within Lassen County shall be defined as noise-impacted if exposed to existing or projected exterior noise levels exceeding either 60dB Ldn/CNEL or the performance standards of Table III."

Reference page 16 of the July 2021 Draft document; Table 7 shows receiving land uses for residential, Recreational/Open Space, and Industrial set at 65dBA. Table III has been omitted from the Draft document. This equates to a 5dBA increase which is more than doubling the sound energy not to mention the performance standards of Table III being omitted.

Reference page 16 of the July 2021 Draft document; Table 7 depicts the land use category of Agriculture with a maximum exterior noise standard 90dBA for residences in agriculture zones at the boundary of the yard area. This statement would apply to my residence and many others located throughout the County in zoned A-1 land uses. It would not allow for noise protection from new projects.

I disagree with the above statement due to the fact that Lassen County's Right-to-farm ordinance applies to farming. The State Legislature passed California's Right-to-Farm law in 1981, which allowed counties to establish their own ordinances reference (Civil Code 3482.5). It is designed to provide relief from nuisance complaints for agricultural operations. Not the Noise Element of the General Plan and not existing use permits or future use permits on agricultural land.

Reference page 23, Standard N-1. CNEL Standards by Land Use Category states "exterior noise standards shall be measured at the property line of the receiving noise-sensitive use (or at the yard boundary for residences on agriculture land)."

This is not very clear because tests at the property line of the receiving noise-sensitive use or yard boundary may not represent the loudest sound from the noise source to which the residence is subjected to. Also a property owner should be able to enjoy their property not just a yard boundary determined by the County.

Perhaps it should be measured at the property line along a line connecting the source to the receiver if that is possible. I really think it depends on the situation. If the sound source is at a high elevation, the homeowner below would have no way of controlling the sound.

Reference page 25, **Standard N-4. Noise Complaint Investigation:** "A measurement location at the property line of the receiving property located closest to the noise source associated with the complaint."

"For residences located on agriculture parcels (agriculture zoning or land use designation), the measurement shall be located at the boundary of the yard area (presumed to extend not more than 50 feet from the residence) or the parcel boundary, whichever is closest to the noise source." **A large parcel of land will lose the enjoyment of the remaining parcel outside of the 50 foot radius.**

Reference page 16, of the July 2021 Draft document; Table 6 lists the Honey Lake Motocross Track as a Stationary Source with a Distance to 65 CNEL (feet) at 1200 feet.

It is not a stationary source and it is not zoned commercial or industrial. The Use Permit #2002-17 was granted based on a negative declaration not an Environmental Impact Report (EIR) with operational conditions specifically condition 13. States: "The facility shall operate in compliance with the Lassen County Noise Element, specifically, noise generated by the facility shall comply with Implementation Standard #1 (Table III)."

Superior Court of the State of California in and for the County of Lassen Case No. 36349 Filing date May 12, 2008; through a contempt proceeding to enforce the terms of an injunction which was obtained on June 5, 2003. The Judge determined the Honey Lake Motocross Park is on land adjacent to Highway 395 and has been designated as agricultural in the Lassen County zoning laws. The owners of the Park were charged with hundreds of violations of an injunction. The injunction was modified to here in after adopt "paragraph 13 of Use Permit #2002-017, as its noise standard."

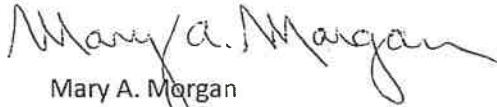
Table III is tied to the Use Permit and the Court Order; therefore it needs to remain in the Lassen County Noise Element to the General Plan. The current Noise Element to the General Plan meets the requirements of the California Environmental Quality Act (CEQA), by approving this proposed Noise Element Draft, the County is allowing higher decibel levels for noise generated now and for projects that may be approved in the future. This clearly has the potential to negatively affect the Environment County wide. The detrimental impacts on human health from excessive noise levels have not changed and this is contradictory to the Draft reference of the EPA Public Health and Welfare Criteria for Noise. July 27, 1973.

Pursuant to CEQA Guidelines 15065, a lead agency "must make a finding of a significant impact if the environmental effects of a project will cause substantial adverse effects on human beings, either directly or indirectly."

Weakening the noise standards from 60 (dBA) to 65 (dBA) and omitting table III in the existing Noise Element is allowing more projects capable of producing louder noises than the current standards in the General Plan, meets CEQA's fair argument test. The purpose of an Environmental Impact Report (EIR) is a document prepared to inform the public and its responsible officials of the environmental

consequences of their decisions before they are made. It is to protect the environment and to inform self-government. The County must prepare an EIR before going any further. Property rights and civil liberties should be a factor in the government's decision making.

Respectfully,


Mary A. Morgan

RECEIVED

JUL 29 2021

Mary A. Morgan
P.O. Box 98
Milford, CA 96121

LASSEN COUNTY DEPARTMENT OF
PLANNING AND BUILDING SERVICES

July 27, 2021

Lassen County Department of
Planning and Building Services
ATTN: Planning Commissioners
707 Nevada Street, Suite 5
Susanville, CA 96130

SUBJECT: Lassen County Noise Ordinance Draft July 2021

Maurice L. Anderson, Planning Commission Secretary:

Reference is made to the Noise Ordinance Draft July 2021; page 2, 9.65.020 Definitions (22) & (29).

"Off-road recreational vehicle" operated other than on a public or private roadway: Not sure the actual definition of public or private roadway. A private roadway use has the potential of generating noise to the point of being a nuisance.

"Yard" or "Residential Yard" means a 50 foot radius around a residential structure when the lot size exceeds the boundary of such radius. For residences on agricultural land (A1) zone a person's right to enjoy life and property is restricted to a 50 foot radius, not the entire lot size.

Page 5, 9.65.060 Noise from Off-Road Recreational Vehicles; the maximum sound levels: 82 decibels between the hours of 7a.m and 7 p.m., is allowed. The 82 (dBA) is considered very loud, what is the purpose of a noise ordinance when 82 decibels are allowed. This disturbs me because I have witnessed 80 decibels of sound generated from the Honey Lake MX track at my home and I personally know what it sounds like.

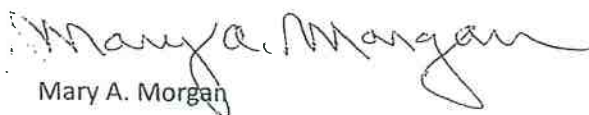
Lassen County Noise Element Draft July 2021, page 10 states that noise from all sources is limited to no greater than 65 dBA CNEL at noise-sensitive land use receiver sites. Page 3 of the Lassen county noise ordinance DRAFT lists Table 1 as 65(dBA) from 7 a.m. to 7 p.m.

Also any residentially zoned property or at the residential yard of any occupied property where the noise is received: What about other zoned properties in the county? Residential yard?

The US Environmental Protection Agency (EPA) sets the level of 70 decibels in order to prevent hearing loss.

Please consider my concerns when approving the Lassen County Noise Ordinance DRAFT.


Respectfully,


Mary A. Morgan

Stefano Richichi

From: Phil Finkel <pfinkel1@yahoo.com>
Sent: Wednesday, November 20, 2019 9:46 AM
To: Stefano Richichi
Subject: Re: Noise Element
Attachments: Noise Element Meeting Handout.pdf; Noise Element Flyer.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

 This message comes from an external sender. EXTERNAL SENDER WARNING!

Hope you had a productive meeting last night. Please include my concerns of excessive target shooting noise within your noise ordinance process.

Thanks,
Phil

On Tuesday, November 19, 2019, 02:08:41 PM PST, Stefano Richichi <srichichi@co.lassen.ca.us> wrote:

Hi Phil,

Lassen County does not currently have an ordinance that directly regulates noise, as you describe in your email below (shooting guns, motorbikes, dogs barking, etc.). However, staff is planning to prepare a noise ordinance after the noise element process is complete (or at least, more complete) for the Board of Supervisors' consideration. You're welcome to attend tonight's meeting regarding the noise element. I've attached some handouts for you with this email for more information.

Best regards,

Stefano M. Richichi

Associate Planner

Lassen County Planning & Building Services

707 Nevada St, Suite 5

Susanville CA 96130

(530) 251-8269

(530) 251-8373 (FAX)



From: Phil Finkel <pfinkel1@yahoo.com>
Sent: Tuesday, November 19, 2019 9:49 AM
To: Stefano Richichi <SRichichi@co.lassen.ca.us>
Subject: Noise Element

This message comes from an external sender. EXTERNAL SENDER WARNING!

Hi Stefano,

Living in Lassen County for thirty years, I've had issues with neighbors' dogs barking and modified motor bikes running like chainsaws on wheels. I suspect that there already are policies on the books for those nuisances, but enforcement is the key.

About ten years ago I talked to Morrie at the county office, and he made me a copy of the Lassen County Noise Element. It stated that it needed to be updated, and when I spoke to then-District 1 county supervisor Bob Pyle about noise regulations, he stated that he was concerned about ranching activities being curtailed if there were noise restrictions. Seeing how important agriculture is to Lassen County, those activities could be exempt from noise statutes. A call to the Lassen County Sheriff's office got me no where. When I expressed my concern of listening to hours of excessive exhaust noise from neighbors' modified dirt bikes circling a track on their property, the deputy replied that he would be violating their civil rights if he asked them to stop riding. I guess my right to a peaceful existence at home didn't matter to him.

Which leads me now to target shooting with high-caliber handguns and long guns. My neighbor periodically invites friends over for tactical shooting practice. Recently I had to endure 3 1/2 hours of constant shooting of over 1,000 rounds of ammunition 200 yards from my home. Imagine being at home and comparing it to living in a war zone. No one in a residential area should have to experience the awful shock to continuous gunfire for hours while in their home. The Lassen County Sheriff's office stated that they could do nothing for me. It is everyone's Second Amendment right to shoot on your property as long as you're 150 feet away from a residence.

This is NOT a Second Amendment issue, it's a NOISE issue! Sure, there's plenty of Lassen County residents who pop off a few rounds to target shoot once in a while, and there's the shooting areas on BLM land off Highway 139 north of town, and the shooting range up Rice Canyon Road for those who want an extended target shooting session.

Should there be a time and round limit for target shooting in a residential area? What **defines** a residential area; acres, distance to another dwelling? So what would be a reasonable limit to target shoot in a residential area: 100 rounds in a half an hour? Skeptics would bring up the Second Amendment, but again, noise is the issue, not the amount of arms and

ammunition that one possess. It's ironic that law enforcement could cite a passing motorcycle or vehicle for excessive exhaust noise of over 100 decibels that would annoy someone for thirty seconds, but can't cite gunfire noise of over 150 decibels that could go on for hours.

Sincerely,

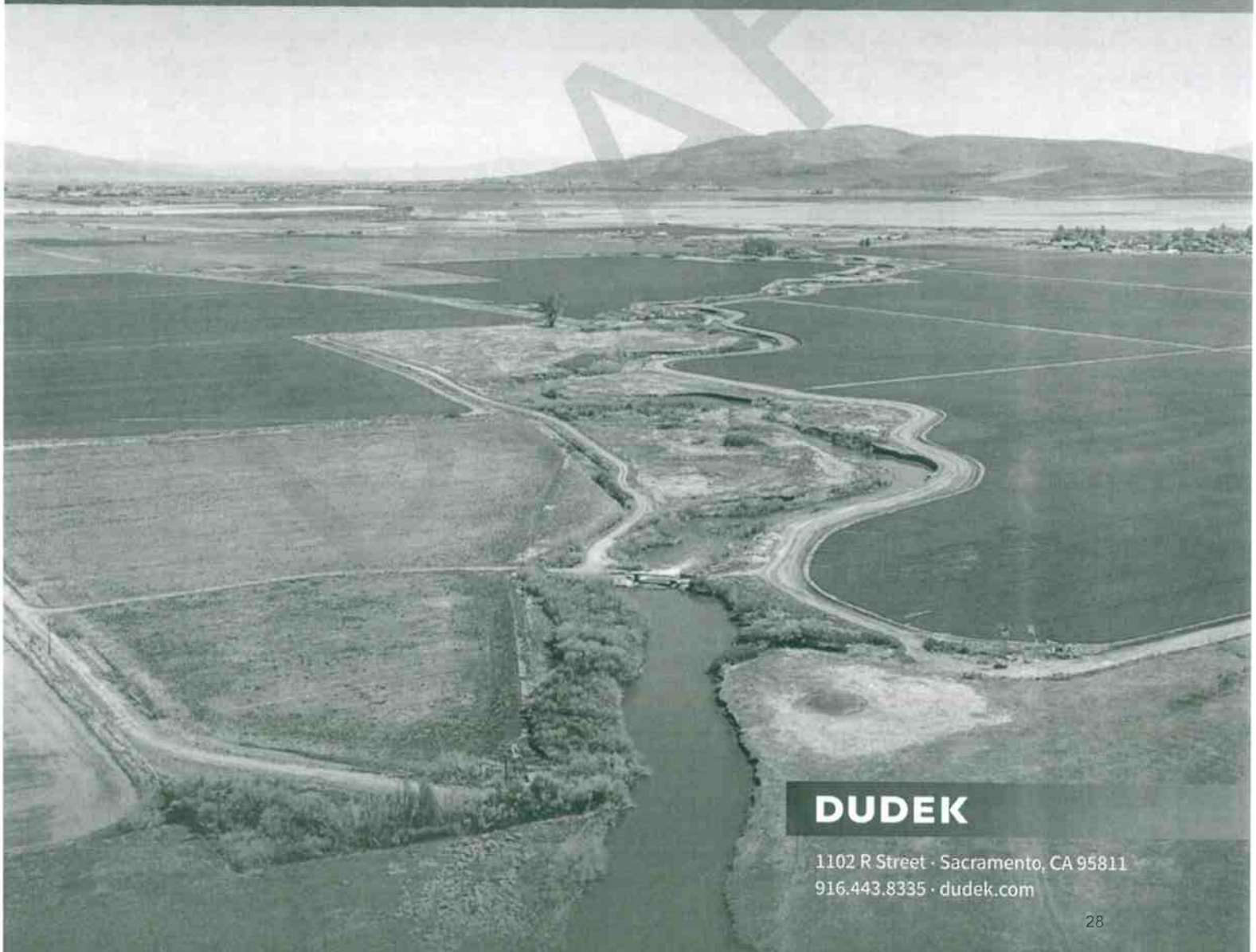
Phil Finkel

700-590 Wingfield Rd.

Susanville, CA 96130

Lassen County Noise Element

JULY 2021



DUDEK

1102 R Street • Sacramento, CA 95811
916.443.8335 • dudek.com

CONTENTS

INTRODUCTION	3
RELATIONSHIP TO OTHER GENERAL PLAN ELEMENTS	4
UNDERSTANDING NOISE	4
DEFINITIONS	6
EXISTING CONDITIONS	7
NOISE IN LASSEN	8
Noise-Sensitive Land Uses	8
Noise-Generating Land Uses	8
NOISE REGULATIONS	9
PRINCIPAL NOISE SOURCES	10
TRANSPORTATION-RELATED NOISE	12
Highway Noise	12
Local Roadway Traffic Noise	13
Railroad Noise	14
Airport Noise	15
Stationary Source Noise	16
Construction Noise	16
NOISE COMPATIBILITY	17
Land Use	17
Temporary Uses and Nuisances	14
GOALS, POLICIES, AND IMPLEMENTATION MEASURES	15
GOAL N1	15
Policy N1.1 – Noise Generation Standards	15
Policy N1.2 – Noise Mitigation and Attenuation	16
Policy N1.3 – Existing Land Use Incompatibilities	16
GOAL N2	17
Policy N2.1 – Land Use Planning	17
Policy N2.2 – Airport Noise and Highway Noise	18
REFERENCES	21

FIGURES

1. COMMON NOISE SOURCES	5
2. LAND USE NOISE COMPATIBILITY STANDARDS	17

TABLES

1. DEFINITIONS OF ACOUSTICAL TERMINOLOGY	6
2. PRINCIPAL NOISE SOURCES	11
3. HIGHWAY NOISE LEVELS	12
4. LOCAL AND REGIONAL ROADWAY NOISE LEVELS	13
5. AIRPORT AND HELIPORT NOISE LEVELS IN LASSEN COUNTY	15
6. STATIONARY SOURCE NOISE LEVELS IN LASSEN COUNTY	16
7. COMMUNITY NOISE EQUIVALENT LEVEL STANDARDS FOR RECEIVING LAND USES	24

1

INTRODUCTION

PURPOSE

This Noise Element identifies the County of Lassen's (County) approach to controlling environmental noise and limiting community exposure to excessive noise levels. The fundamental goals of a Noise Element are as follows (OPR 2017):

- Identify and analyze the major noise sources in the community.
- Provide data and guidance to inform a pattern of land uses that minimizes exposure of community residents to excessive noise.
- Protect quiet areas of a community from noise.
- Develop implementation measures and strategies to address existing and foreseeable noise problems.

RELATIONSHIP TO OTHER GENERAL PLAN ELEMENTS

Noise levels are addressed in the Lassen County Land Use Element to avoid direct conflicts between neighboring uses and to establish patterns of land uses that minimize noise exposure for noise-sensitive uses such as residences, lodging facilities, and hospitals. Policies in the Circulation Element of the Lassen County General Plan related to road location and design, and non-motorized transportation can affect traffic noise levels. Development and implementation of policies in the Noise Element are also closely related to the topics of housing, open space, and environmental justice.

UNDERSTANDING NOISE

Noise is commonly understood as annoying or unwanted sound. Sound can be described by scientists and engineers in two characteristics: amplitude and pitch. Amplitude is driven by the energy content in sound waves and results in the loudness of sounds, which are described as "sound pressure level" or simply "sound level." Amplitude is measured in decibels (dB), which use a logarithmic scale. Pitch is the frequency of sound waves and results in how "high" or "low" a sound is. Pitch is measured in hertz. The most common weighting that is used in noise measurements is an A-weighted decibel (dBA), which is a composite representation of sounds at pitches that can heard by the human ear.

Because sound is measured on a logarithmic scale, a doubling of sound energy results in a 3 dB increase in the noise level. Changes in a community noise level of less than 3 dB are not typically noticed by the human ear. Changes from 3 to 5 dB may be noticed by some individuals who are extremely sensitive to changes in noise. A 5 dB increase is readily noticeable (EPA 1973). The human ear perceives a 10 dB increase in sound level as a doubling of the sound level (e.g., 65 dBA sounds twice as loud as 55 dBA to a human ear).

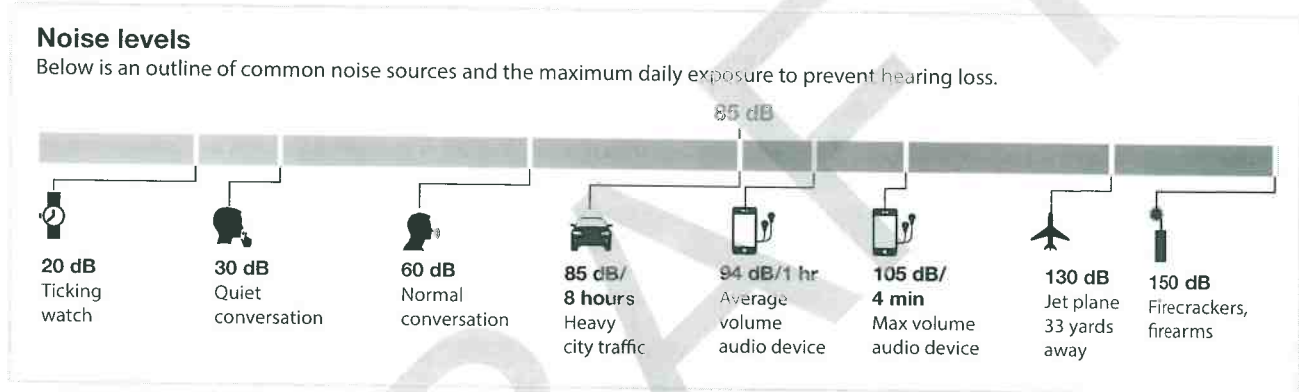


Bieber

Community noise is generated by many sources that change throughout the day. Two metrics are commonly used to describe average noise levels in a community: Day/Night Noise Level (L_{dn}) and Community Noise Equivalent Level (CNEL). L_{dn} and CNEL are 24-hour averages that add a penalty to night time noises because communities are most sensitive to noise at night. CNEL, unlike L_{dn} , also penalizes evening noises (see Table 1).

Noise levels that occur over short periods of time, such as construction noise or concerts, are not well-measured by CNEL. For these temporary events, an Equivalent Continuous Sound Level (L_{eq}) is established to address appropriate noise limits for avoidance of noise nuisance for nearby noise-sensitive land uses. An L_{eq} measures the average sound pressure over the duration of the event and is appropriate for application to noise sources that are scheduled, temporary, and louder than the community noise standards allow. In addition to L_{eq} , the maximum instantaneous sound level (L_{max}) can be employed to prevent excessive sound levels that could be particularly disruptive, or even harmful.

Figure 1 Common Noise Sources



Westwood

DEFINITIONS

Table 1 Definitions of Acoustical Terminology

Term	Definition
Ambient Noise Level	The composite of noise from all sources near and far. The normal or existing level of environmental noise at a given location.
A-Weighted Sound Level (dBA)	A-weighted decibels, referring to decibels weighted to the "A scale." A-weighted decibels represent the sound level containing a range of frequencies weighted in a manner representative of the ear's response.
Community Noise Equivalent Level (CNEL)	The average A-weighted sound level during a 24-hour day, obtained after addition of 5 decibels (dB) to the average hourly sound levels in the evening from 7 p.m. to 10 p.m., and after addition of 10 dB to the average hourly sound levels during the night between 10 p.m. and 7 a.m.
Day/Night Noise Level (L_{dn})	The average A-weighted noise level during a 24-hour day, obtained after addition of 10 dB to the hourly average noise levels measured during the night between 10 p.m. and 7 a.m.
Decibel (dB)	A unit of measurement (dB) on a logarithmic scale that describes the magnitude of a particular quantity of sound pressure or power with respect to a standard reference sound pressure of 20 μ Pascals.
Equivalent Sound Level (L_{eq})	Energy equivalent level, which is the equivalent steady-state sound level that, in a stated period of time, contains the same acoustical energy as a time-varying sound during the same time period. An L_{eq} level is computed by summing the noise energy over the stated time period using mathematical integration. It is commonly also referred to as the "average sound level."
Frequency (hertz)	The number of complete pressure fluctuations per second above and below atmospheric pressure. Normal human hearing is between 20 and 20,000 hertz.
Maximum or Minimum Sound Level (L_{max}, L_{min})	The maximum and minimum A-weighted sound level during the measurement period.
Noise	Unwanted sound.
Noise Contour	A line on a map that represents equal levels of noise exposure, and also the boundary or limit for sound exposure of that level. Noise contours are generally provided in 5 dBA CNEL increments, which means the area between a 60 dBA CNEL contour and a 65 dBA CNEL contour has noise exposure ranging between 60 and 65 dBA CNEL.
Noise Impacted Areas	Areas with existing or projected exterior noise levels exceeding 65 dBA L_{dn} /CNEL.
Noise-Sensitive Land Uses	Any property where frequent exterior human use occurs and where a lowered noise level would be beneficial. In Lassen County these are land uses that are designated for residential, recreation, religious worship, schools, libraries, and short-term lodging.
Noise-Generating Land Uses	Any property where noise may be generated at such a level that noise beyond its property boundary could exceed established CNEL levels.
Yard Area	A 50-foot-radius around a residential structure when the lot size exceeds the boundary of such radius.

2

EXISTING CONDITIONS

NOISE IN LASSEN COUNTY

Lassen County has a rural, outdoor character consisting of large tracts of open space land separating well-established small communities, offering year-round recreational opportunities and agriculture. Many of Lassen County's most important places, including outdoor recreation areas and homes, are unique in part because of the lack of urban noise, while many of Lassen County's economic drivers, such as agriculture and natural resource management (e.g., logging and surface mining), are noise generators. Balancing the needs of quiet places in Lassen County while supporting the growth and development of industry is the primary goal of this Noise Element and the Lassen County Noise Ordinance (Lassen County Code, Chapter 9.65). A list of **noise-sensitive land uses** that are protected by standards of the Noise Element and the Noise Ordinance, as well as **noise-generating land uses** regulated by standards of the Noise Element and the Noise Ordinance, are presented below.

Noise-Sensitive Land Uses

- Residential
- Visitor lodging
- Schools
- Libraries
- Places of religious worship
- Hospitals
- Assisted living facilities
- Formal recreation areas

Noise-Generating Land Uses

- Public roads and highways
- Airports
- Railroads
- Agriculture
- Surface mining
- Logging
- Materials recovery (recycling)

NOISE-SENSITIVE LAND USES

Land uses, such as homes, school, and parks that should be protected from loud noises to preserve quality of life.

NOISE-GENERATING LAND USES

Land uses such as mining or freeways that cause loud noises.



Lassen County

NOISE REGULATIONS

The following provides the federal, state, and local framework for regulating noise in Lassen County.

Federal

AIRPORT NOISE COMPATIBILITY PLANNING (CODE OF FEDERAL REGULATIONS PART 150)

Part 150 of the Code of Federal Regulations identifies the compatibility of various land uses with airport-related noise exposure levels. These regulations serve as a guideline for local jurisdictions because the federal government does not have local land use control.

AIR INSTALLATION COMPATIBLE USE ZONES STUDY (U.S. DEPARTMENT OF DEFENSE)

Air Installation Compatible Use Zone studies are U.S. Department of Defense documents that establish land use strategies and noise and safety recommendations to prevent the encroachment of incompatible land uses from degrading the operational capability of military air installations. Although Amadee Army Airfield would meet the definition of a military air installation, as of 2020, an Air Installation Compatible Use Zone had not been adopted for this facility.

State

CALIFORNIA ENVIRONMENTAL QUALITY ACT

The California Environmental Quality Act (CEQA) considers generation of excessive noise an environmental impact. Implementation of CEQA ensures that during the decision-making stage of development review, County officials and the public will be informed of any potentially excessive noise levels and available mitigation measures to reduce these to acceptable levels for any proposal subject to discretionary action in Lassen County. CEQA applies to discretionary projects (such as use permits or parcel maps) and does not apply to ministerial permits (such as building permits).

AIRPORT LAND USE PLANS/LAND USE COMPATIBILITY PLANS (CALIFORNIA PUBLIC UTILITIES CODE, SECTION 21670 ET SEQ.)

Originally identified as Airport Land Use Plans (ALUPs) and more recently renamed Airport Land Use Compatibility Plans, these plans help maintain the nation's air transportation infrastructure by protecting airports from encroachment by incompatible land uses that could restrict their operation or cause a hazard to the public. With regard to noise, ALUPs and Airport Land Use Compatibility Plans regulate development within airport planning boundaries to minimize exposure of receptors to airport noise. As of 2020, the Amadee Army Airfield is the only airport facility within Lassen County that has an adopted Airport Land Use Compatibility Plan. However, Herlong, Spalding, Bieber, and Ravendale Airports are included in a combined ALUP from 1988 (County of Lassen 1988), and Susanville Municipal Airport is addressed by an adopted ALUP from 1987 (County of Lassen 1987).

CALIFORNIA AIRPORT NOISE STANDARDS (CALIFORNIA CODE OF REGULATIONS, TITLE 21)

Title 21 of the California Code of Regulations establishes that 65 dBA CNEL is the maximum acceptable level of aircraft noise exposure for residents affected by airport operations. A noise contour map addressing aircraft operations at each public airport is generally the basis of determining whether residences exist within the boundary of the 65 dBA CNEL noise level associated with an airport.

CALIFORNIA NOISE INSULATION STANDARDS (CALIFORNIA CODE OF REGULATIONS, TITLE 24)

Title 24 of the California Code of Regulations (California Building Standards Code) establishes residential insulation standards to be implemented during the building permit and construction processes. Title 24 establishes an interior noise standard of 45 dBA for multiple-unit residential structures and hotel/motel structures.

Local

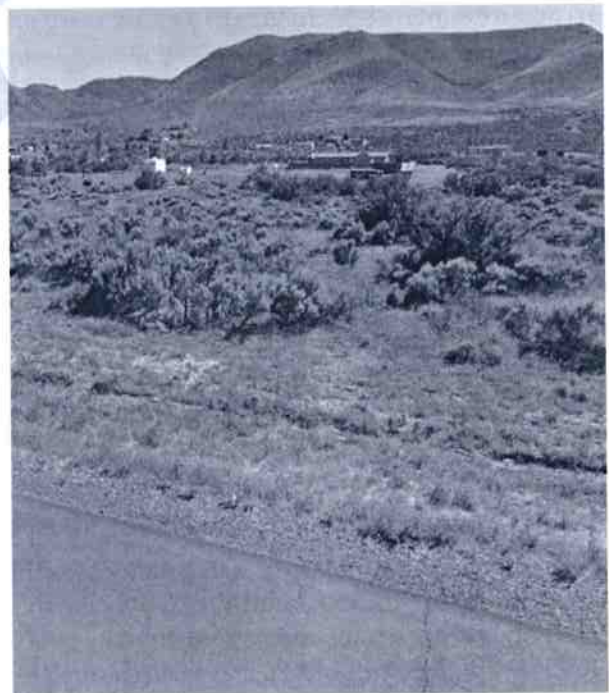
NOISE ORDINANCE (LASSEN COUNTY CODE, CHAPTER 9.65)

The Lassen County Noise Ordinance defines limits for excessive noise and sets noise-level limits to protect noise-sensitive land uses. In general, noise levels within commercial and industrial areas are given a higher allowance, but noise from all sources is limited to no greater than 65 dBA CNEL at noise-sensitive land use receiver sites.

PRINCIPAL NOISE SOURCES

Table 2 lists communities within Lassen County and their principle noise sources, including roads, airports, railroads, and stationary sources. To characterize the noise levels associated with these sources, various methods were used. For road noise, the approach consisted of sound-level measurements and the use of a standard traffic noise model. For airports, the approach involved evaluating any physical alterations to each airport facility and then determining whether intensification of airport operations could result in higher noise levels (compared to current operations and mapped noise contours represented in Airport Land Use Plans and Airport Land Use Compatibility Plans). Railroad noise was assessed based on the analysis presented in the 1989 Lassen Noise Element, adjusted for changes in rail operations frequency (as confirmed with the rail operators). Information for stationary sources identified in the 1989 Noise Element (and still operational) was carried forward from the 1989 Noise Element, and more recently introduced stationary sources were addressed with sound level measurements. Please refer to the Noise Element background technical report for a detailed discussion of the various methods employed, and for field data and modeling results (Dudek 2020).

Tables 3 through 7 summarize the results of community noise measurements conducted in spring 2019 for selected transportation-related and stationary noise sources in the incorporated, unincorporated, and rural areas of Lassen County. Not included in the inventory were noises from persons, pets and livestock, industrial equipment, and construction sites. The Master Noise Exhibit (LassenCountyCommunityNoiseLevels.kmz, link) contains noise level contours for state highways, selected County roads, County airports, and other prominent stationary sources.



Doyle

EXISTING CONDITIONS

Table 2 Principal Noise Sources in Lassen County

Community	Roads	Airports	Railroads	Stationary Sources
Bieber	Highway 299 Susanville Road	Bieber Airport CAL FIRE Helipad	Burlington Northern Santa Fe	Big Valley Lumber
Doyle	Highway 395	None	Union Pacific Railroad	None
Eagle Lake	Eagle Lake Road Mahogany Way	Spalding Airport	None	None
Hallelujah Junction	Highway 70	None	Union Pacific Railroad	None
Herlong	Herlong Access Road Garnier Road	Herlong Airport Amadee Army Airfield	Union Pacific Railroad	
Janesville	Highway 395 Main Street	None	None	None
Johnstonville	Highway 395 Johnstonville Road Center Road	Susanville Municipal Airport	None	Industrial Area (Johnstonville Road)
Leavitt Lake	Center Road	None	None	High Desert State Prison California Correction Center Ward Lake Pit
Litchfield	Highway 395	None	None	None
Little Valley	Little Valley Road	None	Burlington Northern Santa Fe	None
Madeline	Highway 395	None	None	None
Milford	Highway 395	None	None	Honey Lake Motocross
Nubieber	Highway 299	None	Burlington Northern Santa Fe	None
Ravendale	Highway 395	Ravendale Airport	None	None
Standish	Highway 395 Standish-Buntingville Road	None	None	Standish Gravel Pit
Susanville	Eagle Lake Road Highway 36 Highway 44 Highway 139 Highway 395 Johnstonville Road Richmond Road Skyline Road Gold Run Road Wingfield Road	Lassen Community Hospital Heliport	None	Diamond Mountain Speedway Banner Lassen Hospital Heliport Sierra Pacific Mills
Wendel	Highway 395		Union Pacific Railroad	HL Power Plant
Westwood	Highway 36 Mooney Road	None	Burlington Northern Santa Fe	Ultra Power

Note: Bold text indicates noise measurement locations
CAL FIRE = California Department of Forestry and Fire Protection

TRANSPORTATION-RELATED NOISE

Highway Noise

Highways are a major noise source in many jurisdictions, and they are the primary means of circulation throughout Lassen County. Lassen County is primarily subject to noise impacts from State Routes 395, 139, 299, 44, 36, and 70. As explained in more detail in the Noise Element Background Technical Report (Dudek 2020), short-term sound-level measurements and manual traffic counts were performed for highway segments in representative areas of Lassen County to allow the prediction of existing and Year 2040 traffic noise levels (expressed as CNEL). **Table 3** presents the results of the traffic noise modeling and identifies the distance from the center of the highway to the boundary of the 65 dBA CNEL contour. The distance to the 65 dBA CNEL contour is of interest because it represents the setback distance that should be considered when siting any new noise-sensitive use to avoid exposure in excess of the recommended maximum level of 65 dBA CNEL. The Master Noise Exhibit (LassenCountyCommunityNoiseLevels.kmz, link) provides noise contour maps for highways within representative communities throughout Lassen County. The traffic noise modeling assumes flat ground adjacent to the highway, with no terrain or obstructions. Elevation can amplify or dampen noise levels; for example, noise from a lower-elevation highway, such as in a valley, will be reflected upward, while noise from an elevated highway may dissipate. On flat ground, buffers such as sound walls or dense vegetation can be implemented to limit noise from escaping to surrounding areas. To address freeway noise along state roads, the California Department of Transportation (Caltrans) sometimes installs sound walls when new construction or widening is proposed to lessen noise impacts on proximate receptors. Sound walls can be costly and aesthetically unappealing, and they are only recommended when appropriate distance setbacks to noise-sensitive receivers, dense landscaping, landscaped berms, or other attenuation techniques cannot mitigate the noise exposure below levels required by the Lassen County Noise Ordinance (Section 9.65.040). In Lassen County, Caltrans has not pursued sound wall construction along existing highways.

Table 3 Highway Noise Levels

Location	Highways	Measured CNEL	Existing Distance to 65 dBA CNEL (feet)	Year 2040 Distance to 65 dBA CNEL (feet)
Bieber	Highway 299	65 dBA	35	30
Doyle	Highway 395	71 dBA	70	120
Hallelujah Junction	Highway 70	67 dBA	35	50
Janesville	Highway 395	70 dBA	55	70
Johnstonville	Highway 395	77 dBA	120	200
Madeline	Highway 395	67 dBA	30	35
Nubieber	Highway 299	65 dBA	35	30
Ravendale	Highway 395	68 dBA	50	70
Susanville	Highway 36	75 dBA	70	100
	Highway 44	70 dBA	70	85
	Highway 139	61 dBA	25	50
	Highway 395	67 dBA	50	70
Wendel	Highway 395	67 dBA	50	70
Westwood	Highway 36	70 dBA	21	28

CNEL = Community Noise Equivalent Level; dBA = A-weighted decibel

Local Roadway Traffic Noise

The total number of vehicles, traffic speed, and the percentage of semi-truck traffic primarily dictates the level of traffic noise along a given segment of roadway. The primary source of noise from automobiles is high-frequency tire noise, which increases with vehicle speed. Trucks, motorcycles, and older automobiles also generate increased engine and exhaust noise, and semi-trucks generate increased wind noise. Generally, during peak hours, traffic along roadways causes higher noise levels compared to noise levels during non-peak hours, unless congestion is present (which reduces the average vehicle speed). As explained in more detail in the Noise Element Background Technical Report (Dudek 2020), short-term sound-level measurements and manual traffic counts were performed for roadway segments in representative areas of Lassen County to allow the prediction of existing and Year 2040 traffic noise levels (expressed as CNEL).

Table 4 presents the results of the traffic noise modeling, and identifies the distance from the center of the roadway to the boundary of the 65 dBA CNEL contour. The distance to the 65 dBA CNEL contour is of interest because it represents the setback distance that should be considered when siting any new noise-sensitive use to avoid exposure above the recommended maximum level of 65 dBA CNEL. The Master Noise Exhibit (LassenCountyCommunityNoiseLevels.kmz, link) provides noise contour maps for roadways within representative communities throughout Lassen County.

Table 4 Local and Regional Roadway Noise Levels

General Location ¹	Road	Measured CNEL ¹	Existing Distance to 65 dBA CNEL (feet)	Year 2040 Distance to 65 dBA CNEL (feet)
Bieber	Susanville Road	65 dBA	35	30
Eagle Lake	Eagle Lake Road ²	54 dBA	Within ROW	Within ROW
	Mahogany Way	47 dBA	Within ROW	Within ROW
Herlong	Herlong Access Road	67 dBA	27	27
	Garnier Road	64 dBA	Within ROW	Within ROW
Janesville	Main Street	70 dBA	23	23
	North Main Street	65 dBA	23	23
Johnstonville	Johnstonville Road	61 dBA	24	24
	Center Road	75 dBA	105	105
California Corrections Center	Rice Canyon Road	75 dBA	105	105
Standish	Standish-Buntingville Road	66 dBA	50	50
Susanville	Eagle Lake Road ²	63 dBA	23	23
	Johnstonville Road	74 dBA	37	37
	Richmond Road	69 dBA	35	35
	Skyline Road	70 dBA	55	55
	Gold Run Road	61 dBA	Within ROW	Within ROW
	Wingfield Road	59 dBA	Within ROW	Within ROW
Westwood	Mooney Road	65 dBA	Within ROW	Within ROW

CNEL = Community Noise Equivalent Level; dBA = A-weighted decibel; ROW = right of way

¹ The exact location where measurement was taken can be found in Noise Element Background Technical Report (Dudek 2020).

² Eagle Lake Road is also identified as William McIntosh Highway or Route A-1 on some maps.

Railroad Noise

Union Pacific Railroad (UPRR) and Burlington Northern Santa Fe (BNSF) railroad operate rail lines that traverse Lassen County, each carrying freight trains. The UPRR line extends from the Herlong vicinity, southwest through Doyle, and Hallelujah Junction before exiting Lassen County. The BNSF railroad line is a north/south corridor from Westwood through Nubieber to Modoc County. Table 2, Principal Noise Sources in Lassen County, provides a list of all communities that are affected by the above-mentioned railways.

Although train noise is intermittent, it is a significant source of noise due to its magnitude and associated vibration effects. Train noise is composed of the sounds of the locomotive engine, wheel-on-rail noise, and train whistles near at-grade roadway crossings. Federal law, which can be found in Title 49 Part 222 of the Code of Federal Regulations, requires locomotive engines to sound the train's horn 0.25 miles in advance of crossings, and to continue to sound the horn until the train arrives at the crossing. For train horns to be an effective warning device for motorists, they must provide a sound level capable of initiating a response from



Susanville Railroad Depot

the driver as the train approaches the crossing. Therefore, train horns create a significant and bothersome noise level due to the sound level required to achieve this response.

The 1989 Lassen County Noise Element determined that, with the low frequency of rail operations on each line (averaging two to three rail operations per week), the boundary of the 60 dBA CNEL contour would remain within the rail right-of-way. Officials with UPRR did not respond to requests for information regarding current rail operations on its lines within Lassen County, but a Caltrans assessment of abandoned rail corridors indicates that only approximately 25 miles of the UPRR rail corridor in Lassen County remains (Caltrans 2005). As such, UPRR operations are assumed to remain at two to three operations per week, and the 60 dBA CNEL contour should remain within the UPRR right-of-way. Officials at BNSF confirmed that rail operations on its lines run approximately six to eight trains per day. With the worst-case frequency of eight train operations per day, the boundary of the 65 dBA contour extends approximately 100 feet from the center of the tracks. Therefore, a 100-foot setback from the BNSF rail lines is reasonable for planning purposes to avoid elevated noise exposure levels for noise-sensitive land uses. The Master Noise Exhibit (LassenCountyCommunityNoiseLevels.kmz, link) provides figures illustrating the location of rail lines in Lassen County communities. Noise contours have not been developed for the UPRR lines because the 60 dBA CNEL contour would be contained within the rail right-of-way; the extent of the 65 dBA CNEL contour is mapped along the BNSF rail lines.

Airport Noise

As shown in **Table 5**, there are five public use airports, one army airfield, and two heliports located in Lassen County. The five public use airports are Susanville Municipal, Herlong, Spalding, Bieber, and Ravendale Airports. The City of Susanville is the operator of the Susanville Municipal Airport, and the remainder are operated by the County. Airport Land Use Plans have been adopted by the Lassen County Airport Land Use Commission for each of the airports listed above. As part of the Airport Land Use Plan preparation, noise exposure contours (on a CNEL basis) were prepared for the Susanville Municipal Airport and County-owned airports, as required by the California Administrative Code, Title 21. Airport noise depends on the type of aircraft and the frequency and direction of flights. As explained in more detail in the Noise Element Background Technical Report (Dudek 2020), current and future predicted operations at each airport were compared against levels used for preparation of the Airport Land Use Plan noise contours to determine if adjustments needed to be made to noise contour boundaries.

In 2016, the Armedee Army Airfield Airport Land Use Compatibility Plan was adopted by the County (County of Lassen 2015). Noise contour maps were also prepared for the plan, and because of the recent date of adoption, these noise contour maps are considered current and appropriate for planning purposes. For the California Department of Forestry and Fire Protection (CAL FIRE) helipad in Bieber and for the Banner Lassen Hospital heliport in Susanville, noise exposure contours were not previously developed.

Table 5 Airport and Heliport Noise Levels in Lassen County

Location	Facility Name	Existing Distance to 65 dBA CNEL (feet)	Year 2040 Distance to 65 dBA CNEL (feet)
Bieber	Bieber Airport	60	50
Herlong	Herlong Airport	30	25
Ravendale	Ravendale Airport	30	25
Spalding	Spalding Airport	60	50
Susanville	Susanville Municipal Airport	100–400	180
Wendel	Amedee Army Airfield	500	280
Susanville	Banner Lassen Hospital Heliport	250	250
Bieber	CAL FIRE Helipad	250	250

CNEL = Community Noise Equivalent Level; dBA = A-weighted decibel; CAL FIRE = California Department of Forestry and Fire Protection



Susanville Municipal Airport

For this Noise Element, published noise levels from similar helipad and heliport facilities were used to develop noise contours, as further explained in the Noise Element Background Technical Report (Dudek 2020). The Master Noise Exhibit (LassenCountyCommunityNoiseLevels.kmz, link) provides noise contour maps for each of the airport and heliport facilities in Lassen County.

Stationary Source Noise

Noise from industrial businesses and large stationary sources varies, but can contribute significant impacts on adjacent uses depending on the nature of industrial operations. Industrial operations often involve the use of mechanical equipment, generators, and vehicles that contribute to noise levels at industrial sites, particularly if operations occur outdoors. Historically, many communities in Lassen County have been in proximity to industrial uses, such as those associated with the production and storage of lumber products or aggregate materials. Diamond Mountain Speedway and local prisons are also stationary noise sources in Lassen County. **Table 6** provides a summary of the distance from each identified stationary source to the boundary of the 65 dBA CNEL boundary. Major stationary sources identified in the 1989 Noise Element were analyzed in 2019 and compared with the 1989 noise data. More recent stationary noise sources were addressed with sound-level measurements. The Noise Element Background Technical Report (Dudek 2020) provides a description of the methodology used and supporting data.

Table 6 Stationary Noise Levels in Lassen County

Location	Stationary Source	Distance to 65 dBA CNEL (feet)
Bieber	Big Valley Lumber	Within facility property
Herlong	Sierra Army Depot	At facility property boundary
	Federal Corrections Institution	Within facility property
Johnstonville	Industrial Area Johnstonville Road (Recyclers/Auto Dismantlers)	75 to 150 feet
Leavitt Lake	High Desert State Prison/California Correction Center	At facility property boundary
	Ward Lake Pit	700 feet (primarily within facility boundary)
Milford	Honey Lake Motocross Track	1,200 feet
Standish	Standish Gravel Pit	At facility property boundary
Susanville	Diamond Mountain Speedway	225 feet
	Banner Lassen Hospital (Helipad)	250 feet
	Sierra Pacific Mills	Within facility property
Wendel	HL Power Plant	900 feet
Westwood	Ultra Power	Within facility property

Construction Noise

Construction noise typically involves the loudest common urban noise events, including noise associated with building demolition, grading, construction, large diesel engines, and truck deliveries and hauling. Construction activity can create a substantial increase in noise volumes to adjacent receptors, but it is temporary (i.e., does not result in permanent changes to the ambient noise environment). As such, daytime construction noise is exempt from regulation under the Lassen County Noise Ordinance (Lassen County Code, Chapter 9.65).

NOISE COMPATIBILITY

Land Use

New development projects should be evaluated for noise impacts based on a comparison of the noise compatibility standards in provided in Figure 2. Generally, new noise-generating sources should not be placed in locations where the additional noise would raise noise levels above those presented in Figure 2, and new noise-sensitive uses should not be located in areas where exterior noise levels currently exceed the standards presented in Figure 2. New development can achieve these standards by either avoiding locating near incompatible land uses, or abating noise impacts through typical noise mitigation techniques, such as barriers or sound walls between noise-generating sources and exterior use areas, dense vegetation placed between noise generating-sources and adjacent exterior use areas, and/or increased building shell sound insulation to prevent elevated exterior noise levels from intruding into interior living areas.

A standard construction wood frame house reduces noise transmission by 15 dBA with windows open and 20 dBA with windows closed. Because interior noise levels for residences are not to exceed 45 dBA CNEL, the maximum exterior noise level for residences is 65 dBA CNEL without requiring additional insulation. If a proposed new noise-generating use will cause external noise levels at the property line of residential uses

Figure 2 Land Use Noise Compatibility Standards

Clearly Acceptable	Normally Acceptable	Normally Unacceptable	Clearly Unacceptable
Noise levels that are common and regular and do not disturb regular life. Examples of such noises are children playing in the distance, conversations, and light roadway traffic.	Noise levels that can disturb or annoy people, but are common parts of everyday life, and do not pose a nuisance unless they occur over long periods of time. Activities that would produce noise levels in the "normally acceptable range" may require a ministerial permit from the County. This could include construction noises or dogs barking.	Noise levels that are unusual and generally require special permits from the County which outline the length of the nuisance and special regulations that the activity must comply with. Often normally unacceptable noises require on-site monitoring. Community concerts are normally unacceptable events.	Noise levels that are clearly unacceptable are loud and continuous noises. Unacceptable noises are most often the result of placing homes or parks too close to highways or industrial facilities.

Land Use Category	Maximum Interior Noise Levels	Land Use Interpretation for CNEL (or Ldn) value				
		50 - 60	61 - 70	71 - 80	81 - 90	91+
Residential	45					
Recreational/Open Space						
Institutional*	45					
Commercial/Retail	50					
Industrial						
Agriculture						
Resource Extraction						
Public Right-of-Way						

*This includes uses such as: schools, libraries, nursing homes, etc.

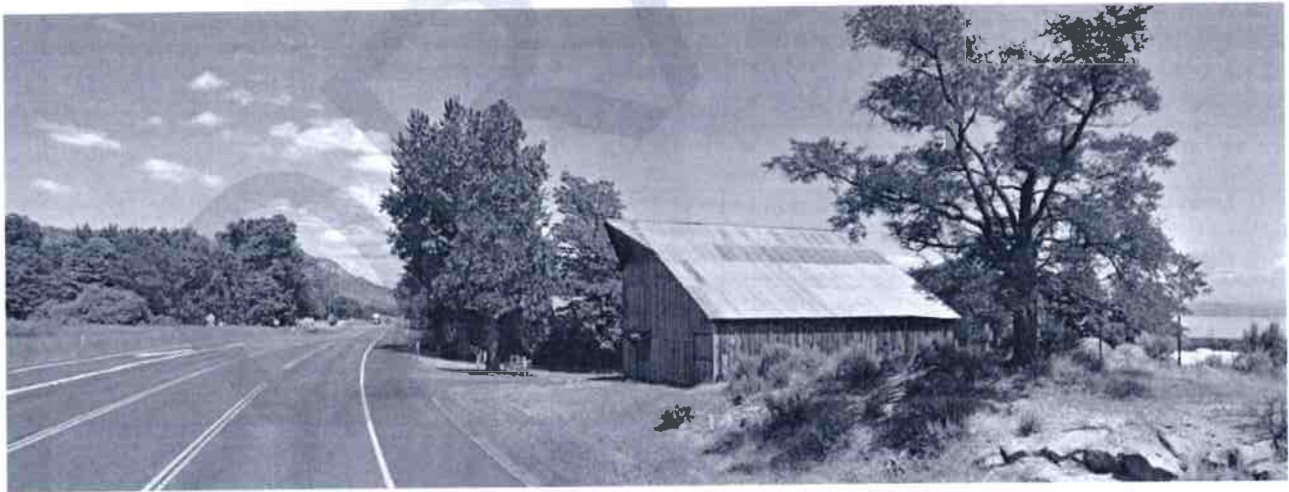
EXISTING CONDITIONS

to exceed 65 dBA CNEL, buffers or other noise mitigation techniques are required to be implemented by the sponsor of the new noise-generating use. If new unplanned residential or other noise-sensitive development is proposed to be located in an area with noise levels exceeding 65 dBA CNEL, it is incumbent upon the new noise-sensitive development to reduce interior noise levels to 45 dBA CNEL.

Temporary Uses and Nuisances

Appropriate standards for short-term noise levels intended to be regulated by the L_{eq} or L_{max} metrics vary with the type of land use and time of day. Acceptable daytime levels in industrial areas are typically based on a combination of health and nuisance considerations, and typically are restricted not to exceed 85 dBA L_{eq} . In residential areas, standards are typically established to avoid annoyance or nuisance, such as noise levels that could interfere with normal conversation. Noise levels above 65 dBA L_{eq} require raised voices in order for participants in a conversation to be heard at a distance of 3 feet. Indoor noise levels between 50 and 60 dBA L_{eq} can disturb sleep.

The perception of nuisance and annoyance varies depending on loudness, duration, and pitch. The perception of nuisance and annoyance also depends on the character of the sound, familiarity and predictability, and the attitude of the listener. In simpler terms, a person moving into a residence on a busy street may be initially annoyed at the elevated traffic noise, but once they become acclimated to the traffic noise level, recognize daily patterns, and understand that the roadway is a necessity for transportation within the community, their annoyance is likely to lessen over time. CNEL and L_{eq} are typically the basis for making nuisance determinations, but other factors may be considered. For example, an annual community event or parade may exceed residential noise levels but might not be deemed a nuisance given the celebratory nature of the event, community traditions and feelings surrounding these community-oriented activities, and the one-day nature of the event.



Milford

3

GOALS, POLICIES, AND IMPLEMENTATION ACTIONS

This chapter presents the goals, policies, and implementation measures of the Noise Element. A goal is an end statement of what the County's noise environment will be like once the Noise Element is implemented. A **policy** is how the County will achieve these goals. An **action** is a specific implementation measure that the County will take to implement the policy.

Goal 1: A quiet and healthful environment with minimal noise intrusion.

Policy 1.1: Noise Generation Standards: Minimize the impact of noise generators by applying clear and appropriate standards during permit review and subsequent monitoring.

Action 1.1a: Enforce Stationary Noise Source Levels. Enforce maximum and average noise level limits on permitted stationary sources based on their impact on the property line of the nearest noise-sensitive receptor as outlined in the Lassen County Noise Ordinance (Lassen County Code, Section 9.65.040). Where the noise-sensitive receptor involves a residence on a parcel with zoning or land use designation of "agriculture," the noise impact shall be evaluated at the boundary of the yard area or property line of the residence, whichever is closer to the residence.

Action 1.1b: Enforce Temporary Event Permit Noise Standards. In accordance with the Lassen County Noise Ordinance (Lassen County Code, Section 9.65.070(a)(3)), review event permits (use permit or license) on a case-by-case basis and provide appropriate attenuation guidance that is clear to follow and implement without the need for noise monitoring, such as the following:

- Placement of noise sources or amplifiers, such as mechanical equipment or speakers
- Orientation of sound system speakers
- Hours of operation

Action 1.1c: Noise monitoring may be required if determined to be necessary by the Director of Lassen County Department of Planning and Building Services or his/her designee, or if determined to be necessary by the Planning Commission or Board of Supervisors through the use permit process.

Action 1.1d: Ensure Construction Occurs During Accepted Times of Day. Ensure that noise-generating construction work occurs during the accepted times of day, not between the hours of 7 p.m. and 7 a.m., pursuant to Standard N-4. Lassen County Noise Ordinance Section 9.65.070(a)(9) exempts construction work from noise regulation between 7 a.m. and 7 p.m.

Policy 1.2: Noise Mitigation and Attenuation Mitigate the effect of noise from new industrial or commercial uses, project-generated traffic, and short-term/ temporary events on residential and other noise-sensitive land uses by applying feasible noise mitigation measures.

Action 1.2a: Attenuate Project-Related Stationary Source Noise Impacts. As part of the environmental review process, the County shall work with project applicants to attenuate stationary-source noise impacts. Projects shall be designed to avoid long-term noise impacts or reduce those impacts to meet the applicable CNEL limits presented in Standard N-1.1 Noise impacts can be reduced using the following methods, or similar methods, as appropriate:

¹ Standard N-1, Table 7, presents allowable noise generation limits in terms of CNEL. These noise generation limits are translated into hourly average (L_{eq}) limits in Lassen County Code, Section 9.65.040. Proposed new stationary noise sources must comply with both Standard N-1 and Section 9.65.040.

- Create a distance buffer between stationary mechanical equipment and noise-sensitive receivers by placing parking lots, storm drain facilities, and landscaping between major stationary equipment and adjacent receivers.
- Provide sound barriers or enclosures for equipment with significant sound-generation.
- Where possible, place on-site buildings between major noise-generating equipment and the location of the closest adjacent noise-sensitive land use.
- Where possible, locate/orient/direct/face/position noise-generating uses in such a way that minimizes noise for noise-sensitive receivers.
- Use facility perimeter sound barriers (e.g., solid walls) or landscaped berms to reduce noise levels at immediately adjacent noise-sensitive uses.

Action 1.2b: Require Noise Studies for Discretionary Projects. When a discretionary project has the potential to generate noise levels that exceed the standards presented in Standard N-11 (as identified through the California Environmental Quality Act [CEQA] process), a noise study and acceptable noise attenuation techniques to ensure compliance with Standard N-1 shall be required. For such discretionary projects, the environmental review process required by CEQA shall be employed to identify the required analysis and determine appropriate mitigation, as described in Standard N-2. The noise study shall be prepared in accordance with the requirements set forth in Standard N-3.

Action 1.2c: Attenuate Project-Related Traffic Noise Impacts Near Sensitive Uses. Proposed discretionary developments that may result in an increase in traffic on roadways near existing noise-sensitive uses above levels allowed in the General Plan should include, as appropriate and feasible, traffic-calming design, low-noise pavement surfaces, sound barriers, or vegetated berms to minimize motor vehicle traffic noise.

Action 1.2d: Traffic-calming design could include the following:

- Narrowing lane widths
- Digital speed monitors
- Flashing crosswalk beacons
- Curb bulb-outs
- Reduced speed limits

Policy 1.3: Existing Land Use Incompatibilities. Help mitigate noise levels among existing incompatible land uses, as feasible, to enhance quality of life for noise-impacted residents and other sensitive receptors.

Action 1.3a: Mitigate Stationary-Source Noise Impacts on Existing Residential and Other Sensitive Uses as Feasible. Upon receiving noise complaints, County Planning staff shall, in accordance with Departmental policy, investigate the noise source associated with the complaint to determine if a violation of Ordinance-specified noise limits is occurring. Such investigation may include the direct measurement of sound levels using a sound-level meter or requiring the operator of the sound source to retain an acoustical professional to complete such measurements and analysis, as dictated in Standard N-4. Where sound levels exceed Noise Ordinance limits for stationary sound sources (Lassen County Code Section 9.65.040), the operator shall be required to install controls or alter operations in order to achieve compliance with the Noise Ordinance limits. Where sound levels investigated as the result of a complaint are in compliance, County Planning staff or the retained acoustical consultant may provide recommendations for reducing sound-level annoyance in exterior or interior areas of the property for which the complaint has been submitted. The recommendations may be followed on a voluntary basis, but cannot be used to compel the noise generator into reducing sound levels to less than those required in the Noise Ordinance.

Action 1.3b: Support Attenuation of Highway Noise The County should support efforts to reduce traffic noise levels on Highway 395, Highway 299, Highway 139, Highway 70, Highway 44, and Highway 36, along sections in proximity to concentrated residential development through prioritized roadway surface maintenance; use of noise-reducing surface treatments; traffic-safe tree or shrub plantings; or, in cases of significant noise exposure, use of lower speed limits and construction of sound walls. The County should also encourage enforcement of California Vehicle Code sections relating to adequate mufflers and modified exhaust systems.

Goal 2: A pattern of land uses that protects residents and other sensitive receptors from excessive noise.

Policy 2.1: Land Use Planning. Create General Plan land use and zoning patterns that prevent or buffer community residents and other sensitive receptors from incompatible land uses.

Action 2.1a: Consider Noise Compatibility in Land Use Planning. The County shall consider the compatibility of proposed land uses and the noise environment when preparing or revising General Plan, Community Plan, and zoning documents, and when reviewing development proposals. Noise levels for proposed land uses shall be consistent with the noise levels presented in Noise Standard N-1. These standards regarding noise exposure for noise-sensitive receivers (e.g., residences) do not apply to residential units established in conjunction with industrial or commercial uses (e.g., caretaker dwellings).

Action 2.1b: Prohibit or Attenuate New Sensitive Uses in Noise-Impacted Areas. Prohibit new development of residential or other sensitive land uses in noise-impacted areas (as generally depicted by the limit of the 65 dBA CNEL contours illustrated in the Master Noise Exhibit (LassenCountyCommunityNoiseLevels.kmz, link) unless the project design includes effective noise-attenuation measures that reduce exterior noise to 65 dBA Ldn/CNEL or less in exterior activity areas, and 45 dBA Ldn/CNEL or less in interior spaces with windows and doors closed by using the best available noise-reduction technology, which may include the following techniques:

- Increase the distance between noise generators and noise-sensitive uses through the use of increased building setbacks and/or the dedication of noise easements.
- Place noise-tolerant land elements of the site plan, such as parking lots, maintenance facilities, and utility areas, between vicinity noise generators and on-site receivers.
- Use noise-tolerant structures, such as garages or carports, to shield noise-sensitive areas.
- Orient buildings so that the noise-sensitive portions of a project, including outdoor areas, are shielded from noise sources.
- Use berms and heavy landscaping to reduce noise levels.
- Use sound-attenuating architectural design and building features, such as the following:
 - Courtyards
 - Oriented openings and windows away from roadways
 - Double- and triple-paned windows
 - Additional layers of plywood and drywall in the exterior building shell construction

With regard to building construction to achieve adequate noise attenuation, the County shall enforce the State Noise Insulation Standards (California Code of Regulations, Title 24).

Action 2.1c: Enforce Right to Farm Ordinance. Continue to enforce the Right to Farm Ordinance as codified in the Lassen County Municipal Code Chapter 6.02. For new residential development proposed adjacent to agricultural uses, support educational opportunities to inform potential property owners and residents on the implications of the Right to Farm Ordinance.

Policy 2.2: Airport Noise and Highway Noise. Minimize vehicular and aircraft noise exposure for residents and occupants of noise-sensitive uses by planning land uses compatible with transportation corridors and airports, and applying noise attenuation designs and construction standards.

Action 2.2a: Consult Airport Noise Contours. Noise contour lines illustrate the boundary or extent of an area subject to a given CNEL noise exposure and are generally provided in 5 dBA increments. For example, a receiver located between a 60 dBA CNEL and 65 dBA CNEL contour could be exposed to noise levels in the 60–65 dBA CNEL range. The 20-year projected airport noise contours in the Master Noise Exhibit ([LassenCountyCommunityNoiseLevels.kmz](#), link) (or any Airport Land Use Compatibility Plan adopted more recently than this Noise Element) shall be used to indicate where special sound insulation measures may apply, consistent with Standard N-1. To avoid noise-related land use incompatibility, proposed noise-sensitive land uses should not be located within the 65 dBA CNEL contour associated with any of the airports in Lassen County.

Action 2.2b: Consult Highway Noise Contours The 20-year projected highway noise contours in the Master Noise Exhibit ([LassenCountyCommunityNoiseLevels.kmz](#), link) shall be used to identify the location of the 65 dBA CNEL contour relative to a given highway segment. To avoid noise-related land use incompatibility, proposed noise-sensitive land uses should not be located within the 65 dBA CNEL contour associated with any highway within Lassen County. For new noise-sensitive uses proposed within the 65 dBA contour (where noise levels up to 70 dBA CNEL could exist), site design may need to include placement of exterior use areas behind proposed structures or the construction of a sound wall along the perimeter of the exterior use area.

STANDARDS

Standards are the effective noise regulations that enforce this Noise Element consistent with the Lassen County Noise Ordinance ([Lassen County Code, Chapter 9.65](#)).

Standard N-1. CNEL Standards by Land Use Category

New noise-generating land uses may not exceed the following standards (as presented in **Table 7**) at the property line for the parcel containing said noise-generating use. For noise-sensitive uses in a project's vicinity, exterior noise standards shall be measured at the property line of the receiving noise-sensitive use (or at the yard boundary for residences on agriculture land), and interior noise standards shall be measured with all doors and windows closed.

Table 7 Community Noise Equivalent Level Standards for Receiving Land Uses

Land Use Category	Interior Noise Standard (dBA)	Exterior Noise Standard (dBA)*
Residential	45	65
Recreational/Open Space	N/A	65
	45	65
Commercial/Retail	50	75 ^b
Industrial	N/A	90 ^b
Agriculture	N/A	90
Resource Extraction	N/A	90 ^b
Public Right-of-Way	N/A	90

* These noise generation limits are translated into hourly average (L_{eq}) limits in Lassen County Code, Section 9.65.040. Proposed new stationary noise sources must comply with both Standard N-1 and Section 9.65.040.

^b Noise levels generated from these sources are also subject to the land use noise standard of the receiving properties, where such a standard imposes a lower noise limit. For instance, while commercial noise levels of up to 75 dBA CNEL are allowed within a commercially zoned property, this commercial noise source must not exceed 65 dBA CNEL at any residential property boundary in the vicinity. The limit is applied at the receiving land use property line or (for residences in agriculture zones) at the boundary of the yard area.

Standard N-2. Environmental/Development Review Process

When noise-sensitive or noise-generating land uses, as defined in the Noise Ordinance (Lassen County Code, Chapter 9.65), are proposed and require a discretionary permit, the environmental review process required by CEQA shall be used to generate the required analysis and determine the appropriate mitigation per General Plan and state standards. For the purpose of completing CEQA review, future noise levels shall be predicted for a period of at least 10 years from the beginning of the environmental document review process. Adherence to mitigation required to address significant noise impacts (as identified in the CEQA review document) shall be ensured via incorporation of mitigation measures in a required Mitigation Monitoring and Reporting Program (MMRP), to be adopted concurrent with approval of discretionary permits for the project. Adherence to mitigation shall also be ensured through conditions of approval.

Standard N-3. Noise Study Requirements

When a discretionary project has the potential to generate noise levels in excess of N-1 standards, a noise study and acceptable plans to ensure compliance with the standards shall be required. The noise study shall measure or model the following, as appropriate: CNEL, L_{eq} , and L_{max} levels at property lines and, if feasible, receptor locations. Noise studies shall be prepared by qualified individuals using calibrated equipment under currently accepted professional standards, and include an analysis of the characteristics of the project in relation to noise levels, all feasible mitigations, and projected noise impacts. Noise studies shall do the following:

- Be the responsibility of the applicant, but accepted by the Department of Planning and Building Services.
- Include representative noise level measurements with sufficient sampling periods and locations to adequately describe local conditions.
- Estimate existing and projected (10 years) noise levels in terms of CNEL standards in Table 7 or the standards found in Lassen County Noise Ordinance Section 96.040, and compare predicted noise levels against such standards.
- Recommend appropriate mitigation to achieve compliance with the adopted policies and standards of the Noise Element and Noise Ordinance.

- Predict noise exposure at the property line after the prescribed mitigation measures have been implemented (quantify the noise reduction achieved by the mitigations). If the project does not comply with the adopted standards of the Noise Element and Noise Ordinance, the analysis must provide acoustical information for a statement of overriding considerations for the project.

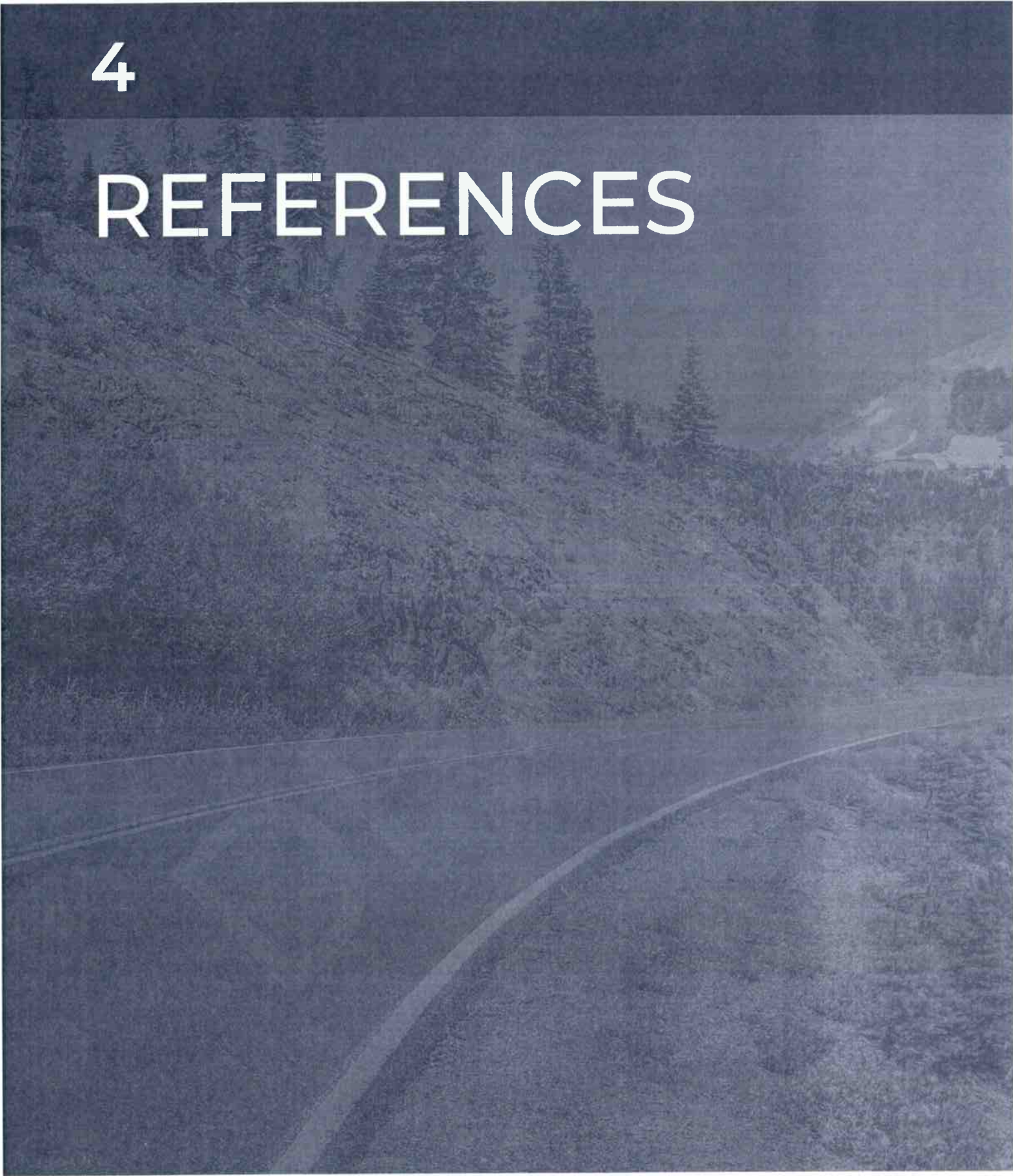
Standard N-4. Noise Complaint Investigation

When a noise complaint is submitted, authorized County personnel shall investigate the noise source associated with the complaint to determine if a violation of Noise Ordinance limits is occurring. If the noise level from the offending source is clearly audible over the background noise levels at the property line of the complainant, an investigation would assume to be warranted. Such investigation may include the direct measurement of sound levels by County staff using a sound-level meter or requiring the operator of the sound source to retain an acoustical professional to complete such measurements and analysis. The investigation shall include the following:

- Completion of sound level measurements using a sound-level meter meeting American National Standards Institute (ANSI) Type 1 or Type 2 specifications.
- A measurement location at the property line of the receiving property located closest to the noise source associated with the complaint.
- For residences located on agriculture parcels (agriculture zoning or land use designation), the measurement shall be located at the boundary of the yard area (presumed to extend not more than 50 feet from the residence) or the parcel boundary, whichever is closest to the noise source.
- Measurements for an appropriate duration to assess compliance with the applicable standard (for Leq based standard, the measurement shall be no less than 1 hour while the noise source is operating; for the CNEL standard, the sound measurement shall be not less than 24 hours in duration). Periodic measurements for temporary events or non-standard operating circumstances may be warranted to ensure compliance.
- Reporting that includes Leq and Lmax values, as well as calculated CNEL levels (where appropriate) associated with the noise measurements, and comparison of these noise levels with the Noise Element Policy and Noise Ordinance Standards.
- Recommendations for the operator of the noise source to achieve compliance (if a violation is occurring), or guidance for the receiving property to reduce noise exposure (if the noise is within allowable limits). The County can provide good neighbor policies to the noise-generating properties, but if the noise is within allowable limits, these suggestions shall not be enforceable.

4

REFERENCES



Lassen County Noise Element

REFERENCES

- Caltrans (California Department of Transportation). 2005. Rail Right-of-Way and Abandoned Corridors Study Final Report. March 2005.
- County of Humboldt. 2017. "Noise Element." In Humboldt County General Plan. Adopted October 23, 2017. Accessed May 2019. <https://humboldt.gov/205/General-Plan>.
- County of Lassen. 1987. Susanville Municipal Airport Land Use Plan, Lassen County Airport Land Use Commission. March 26, 1987.
- County of Lassen. 1988. Airport Land Use Plan for Airports at Herlong, Spaulding, Bieber, Ravendale, Lassen County Airport Land Use Commission. April 28, 1988.
- County of Lassen. 2015. Amedee Army Airfield Airport Land Use Compatibility Plan. Prepared for Lassen County. December 2015. Adopted November 15, 2016. <http://www.kanwehelp.com/Amedee%20Army%20Airfield%20Area%20Land%20Use%20Compatibility%20Plan%20-2016.htm>.
- Dudek. 2020. Lassen County General Plan Noise Element Update 2020 Technical Background Report. December 2020.
- EPA (U.S. Environmental Protection Agency). 1973. Public Health and Welfare Criteria for Noise. July 27, 1973.
- OPR (Governor's Office of Planning and Research). 2017. State of California General Plan Guidelines: 2017 Update. Accessed April 2019. <http://opr.ca.gov/planning/general-plan/guidelines.html>.
- World Health Organization. 2015. Hearing Loss due to Recreational Exposure to Loud Sounds: A Review. Accessed May 2019. https://apps.who.int/iris/bitstream/handle/10665/154589/9789241508513_eng.pdf;jsessionid=2420F38BD389D11BCE037D718CA78D02?sequence=1.

ORDINANCE NO. _____

Ordinance to add Chapter 9.65 to the Lassen County Code in order to provide standards for noise analysis and management, informally referenced as the "Noise Ordinance".

The following ordinance, consisting of three sections, was duly and regularly passed and adopted by the Board of Supervisors of the County of Lassen, State of California, at a regular meeting of the Board of Supervisors held on the ____th day of _____, 2021, by the following vote:

AYES: _____

NOES: _____

ABSTAIN: _____

ABSENT: _____

AARON ALBAUGH
Chairman of the Board of Supervisors,
County of Lassen, State of California

Attest:
JULIE BUSTAMANTE
Clerk of the Board

By: _____
MICHELE YDERRAGA, Deputy Clerk of the Board

I, MICHELE YDERRAGA, Deputy Clerk of the Board of the Board of Supervisors, County of Lassen, do hereby certify that the foregoing ordinance was adopted by the said Board of Supervisors at a regular meeting thereof held on the ____th day of _____, 20____.

Deputy Clerk of the County of Lassen Board of Supervisors

**THE BOARD OF SUPERVISORS OF THE COUNTY OF LASSEN
ORDAINS AS FOLLOWS:**

SECTION ONE: This ordinance shall take effect thirty (30) days from the date of its passage, and before the expiration of fifteen (15) days after its passage a summary shall be published with the names of the members voting for and against the same, once in a local newspaper of the County of Lassen, State of California.

SECTION TWO: Add Chapter 9.65 of the Lassen County Code to read as follows:

9.65.010 Purpose

Disturbing, excessive or offensive noise interferes with a person's right to enjoy life and property and is detrimental to the public health and safety. Every person is entitled to an environment free of annoying and harmful noise. The purpose of this chapter is to regulate noise in the unincorporated area of the County to promote the public health, comfort and convenience of the County's inhabitants and its visitors.

9.65.020 Definitions

The following definitions shall apply to this chapter:

- (1) "Ambient noise level" means the composite of existing noise from all sources at a given location and time. Ambient noise is sometimes referred to as background noise.
- (2) "Average sound level" means the level in decibels of the mean-square A-weighted sound pressure during a stated time period, with reference to the square of the standard reference sound pressure of 20 micropascals. The "average sound level" is equivalent to the industry standard L_{EQ} (also referred to as the equivalent sound level).
- (3) "A-weighted sound level" means the sound level in decibels as measured on a sound level meter using the A-weighted network. The A-weighted network is the network for measuring sound that most closely resembles what the human ear hears. Sound measured using the A-weighted network is designated dBA.
- (4) "Community Noise Equivalent Level" (CNEL) means the average A-weighted sound level during a 24-hour day, obtained after addition of 5 decibels to the average hourly sound levels in the evening from 7 p.m. to 10 p.m. and after addition of 10 decibels to the average hourly sound levels during the night between 10 p.m. and 7 a.m.
- (5) "Construction equipment" means tools, machinery or equipment including "special construction equipment" defined in the Vehicle Code, used in a construction operation on any construction site.
- (6) "Constant noise" means noise that continues without pause or interruption, the opposite of intermittent noise.
- (7) "Day/Night Noise Level" (L_{dn}) means the average A-weighted noise level during a 24-hour day, obtained after addition of 10 decibels to the hourly average noise levels measured during the night between 10 p.m. and 7 a.m.
- (8) "Decibel" means a unit for measuring 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.
- (9) "Disturbing, excessive or offensive noise" means sounds that could annoy a

person with normal sensitivity to noise due to the time of occurrence (i.e., nighttime), the level of the sound compared to ambient noise levels (i.e., 10 dBA greater than ambient), the characteristics of the sound (i.e., barking dog, screaming child, air horn, etc.), that could endanger the health or safety of any person (i.e., sustained noise levels exceeding 90 dB), or a combination of such characteristics.

- (10) "Emergency work" means work: (1) necessary to restore property to a safe condition following a public calamity, (2) required to protect a person or property from injury or damage or (3) by a public or private utility to restore utility service and (4) meets the definition of "emergency work" pursuant to the California Building Standards Code (Title 24 of the California Code of Regulations)
- (11) "Frequency" (Hz) means the number of complete pressure fluctuations per second above and below atmospheric pressure. Normal human hearing is between 20 Hz and 20,000 Hz.
- (12) "Intermittent noise" means a noise that is not steady, but starts and stops in a random pattern, the opposite of constant noise.
- (13) "Maximum sound level" means the highest sound level reached when measuring noise with a sound level meter using the A-weighted network and slow time weighting. The "maximum sound level" is equivalent to the industry standard known as L_{MAX} .
- (14) "Motor vehicle" means any self-propelled vehicle as defined in the Vehicle Code and includes a mini-bike and a go-cart.
- (15) "Noise" means any unwanted sound.
- (16) "Noise Contour" means a line on a map that represents equal levels of noise exposure, and also the boundary or limit for sound exposure of that level. Noise contours are generally provided in 5 dBA CNEL increments, which means the area between a 60 dBA CNEL contour and a 65 dBA CNEL contour has noise exposure ranging between 60 and 65 dBA CNEL.
- (17) "Noise control officer" means the Director of Lassen County Department of Planning and Building Services or a person appointed or retained by the Director to perform this function.
- (18) "Noise Generating Land Uses" means any property where noise may be generated and at such a level that noise beyond its property boundary could exceed established CNEL levels.
- (19) "Noise Impacted Area" means areas with existing or projected exterior noise levels exceeding either 65 dB Ldn/CNEL.
- (20) "Noise Sensitive Land Uses" means any property where frequent exterior human use occurs and where a lowered noise level would be beneficial. In Lassen County these are land uses which are designated for residential, recreation, religious worship, schools, libraries, or short-term lodging.
- (21) "Occupied property" means property on which there is a building which has been legally established for the use, and is occupied in accordance with Title 24 of the California Code of Regulations.
- (22) "Off-road recreational vehicle" means a motor vehicle that is being operated other than on a public or private roadway, whether or not the vehicle was designed or intended for off-road use and may include but is not limited to a motorcycle, go-cart, camper, dune buggy, ATV, racecar, automobile, SUV, pick-up truck or truck. A piece of farm equipment or a motor vehicle being used

for an agricultural, military, fire, emergency or law enforcement use or by a public or private utility for work on utilities is not an "off-road recreational vehicle."

- (23) "Person with normal sensitivity to noise" means an individual representing the average population with respect to their reaction to various noise sources and levels, who does not possess any medical condition that would increase their sensitivity to noise.
- (24) "Plainly audible" means any sound that can be detected by a person using his or her unaided hearing faculties.
- (25) "Recurrent noise" means a noise that occurs repeatedly over time, as opposed to a single occurrence noise event.
- (26) "Sound amplifying equipment" means any machine or device used to amplify music, the human voice or any sound and does not include a standard automobile radio when used and heard only by the occupants of the vehicle in which it is installed.
- (27) "Sound level" means the weighted sound pressure level obtained using a sound level meter and frequency weighting network as provided in the American National Standards Institute (ANSI) specifications for sound level meters. As used in this chapter, "sound level" means the same as "noise level."
- (28) "Sound level meter" means an instrument for the measurement of sound levels, which meets or exceeds the requirements pertinent for a type 1 or type 2 meter in the ANSI specifications for sound level meters, ANSI S1.4-1983 or its latest revision.
- (29) "Yard" or "Residential Yard" means a 50 foot radius around a residential structure when the lot size exceeds the boundary of such radius.

9.65.030 Sound Level Measurement

- (a) A sound level measurement made pursuant to this chapter shall be measured with a sound level meter using A-weighting and a "slow" response time, as these terms are used in ANSI S1.1-2013 or its latest revision.
- (b) Each measurement shall be conducted at the boundary line of the property on which the noise source is located or any place on the affected property receiving such noise, but no closer than five feet from the noise source; if a noise source is located closer than 5 feet from the boundary line of the property, the measurement shall be made at the boundary line.
- (c) The sound level meter shall be calibrated and adjusted by means of an acoustical calibrator of the coupler-type to assure meter accuracy within the tolerances in the ANSI specifications for sound level meters, ANSI S1.4-1983 or its latest revision. The sound level meter shall be used as provided in the manufacturer's instructions.
- (d) Metrics recorded for the measurement shall include, at a minimum, Leq, Lmax, duration, time, date.

9.65.040 General Sound Level Limits

- (a) Except as provided in sections 050, 060 and 070 of this chapter, it shall be deemed a Public Nuisance (Lassen County Code Chapter 1.18) for any person to

cause or allow the creation of any noise, which exceeds the one-hour average sound level limits in Table 1, when the one-hour average sound level is measured at the property line of the property on which the noise is produced or at any location on a property that is receiving the noise. Any person violating any provision of the Lassen County Code, including the generation of noise in excess of the following sound level limits, may be issued an administrative citation by an enforcement officer as provided in this chapter, pursuant to Lassen County Code Chapter 1.20.

TABLE 1

ZONE	TIME	ONE-HOUR AVERAGE SOUND LEVEL LIMITS (dBA)
(1) R-1, R-2, R-3, PUD, P-C, R-S, M-R, F-R, I-1, O-C-B, O-D, O-H, E-A, O-S, A-1, A-2, A-3, U-C, U-C-2, A-F. ^{1,2} Also any future established residential or agricultural zones.	7 a.m. to 7 p.m.	65
	7 p.m. to 10 p.m.	60
	10 p.m. to 7 a.m.	55
(2) B-P, C-H, C-L, C-G, C-R, C-T, C-1, C-2, Y-C. ² Also any future established commercial zones.	7 a.m. to 7 p.m.	75
	7 p.m. to 10 p.m.	70
	10 p.m. to 7 a.m.	65
(3) M-L, M-1, M-2, M, H-R, T-P-Z. Also any future established industrial zones	7 a.m. to 7 p.m.	90
	7 p.m. to 7 a.m.	80

SOUND LEVEL LIMITS IN DECIBELS (dBA)

¹ Within agriculture zones, noise exposure limit is applicable only to residences, at the residential yard boundary.

² These limits also govern the noise exposure level for a legal residence in any zone, applied at the residential yard boundary.

- (b) Where a noise study has been conducted and the noise mitigation measures recommended by that study have been made conditions of approval of a Use Permit, which authorizes the noise-generating use or activity and the decision making body approving the Use Permit determined that those mitigation measures reduce potential noise impacts to a level below significance,

implementation and compliance with those noise mitigation measures shall constitute compliance with subsection (a) above.

- (c) If the measured ambient noise level exceeds the applicable limit in Table 1, the allowable one-hour average sound level shall be the one-hour average ambient noise level, plus three decibels. The ambient noise level shall be measured when the alleged noise violation source is not operating.
- (d) The sound level limit at a location on a boundary between two zones is the lower of the respective limits for the two zones.
- (e) A fixed-location public utility distribution or transmission facility located on or adjacent to a property line shall be subject to the sound level limits of this section measured at or beyond six feet from the boundary of the easement upon which the facility is located, subject to the jurisdictional authority of the County.

9.65.050 General Noise Prohibitions

In addition to the general limitations on sound levels in section 040, the following additional prohibitions shall apply:

- (a) It shall be deemed a Public Nuisance (Lassen County Code Chapter 1.18) for a person to make, continue or cause to be made or continued a disturbing, excessive or offensive noise.
- (b) The following acts, among others as determined by the noise officer or sheriff, are declared to be disturbing, excessive and offensive noises that violate this chapter and are a Public Nuisance (Lassen County Code Chapter 1.18)
 - (1) Unnecessarily using or operating or allowing another person to use or operate a vehicle horn, signaling device or other similar device, other than as regulated by the Vehicle Code.
 - (2) Using, operating, playing or allowing another person to use, operate or play a radio, musical instrument, stereo equipment, television set or other device for the production or reproduction of sound:
 - (A) That disturbs the peace, quiet and comfort of persons of normal sensitivity residing in the area.
 - (B) That exceeds the levels in section 040 when measured at a distance of 25 feet from a device operating in a public right-of-way. OR
 - (C) That exceeds the levels in section 040 when measured at a distance of 25 feet from a device for the production or reproduction of sound operated in a County park unless a permit has been obtained from the County Public Works Department specifying the time, location and other conditions under which amplified sound may be allowed within a County park. A person using, operating or playing a device for the production or reproduction of sound in a County park, however, shall not exceed a level of 90 decibels when measured 50 feet from the source or exceed the levels in section 040 when measured at the park boundary. Subsection 050(b)(2)(C) shall be enforced by the Public Works Department.
 - (3) In a residential zoning district, it shall be deemed a violation of section 050(b)(2)(A) if a device for the production or reproduction of sound that is being operated, used or played that is causing or allowing unreasonably loud or disturbing verbal noise that is offensive or annoying to a person

with normal sensitivity to noise at a distance of 50 feet or more from the building or structure in which it is located, or if outdoors on private property is audible within 50 feet of the boundary of the property on which it is located.

- (4) Playing, using, operating or allowing to be played, used or operated any sound production or reproduction device or machine including but not limited to music stereo equipment, musical instruments, loudspeakers and sound amplifiers, for commercial or business advertising purposes in, on, over or across any street, alley, sidewalk, park or public property in a manner as to violate the provisions of this ordinance is prohibited.
- (5) Owning, possessing or harboring an animal which by any frequent or long continued noise causes annoyance or discomfort to a person of normal sensitivity to noise in the vicinity. The written affirmation by three persons as described by Section 8.08.030(b) of the Lassen County Code shall be deemed prima facie evidence of a violation of this section. This subsection does not apply to animal noise emanating from a legally operated animal hospital, humane society, County Department of Animal Services facility, farm or other agricultural facility where keeping animals is allowed.

9.65.060 Noise from Off-Road Recreational Vehicles

In addition to the general limitations on sound levels in section 040, and unless otherwise allowed by an approved Use Permit, no person shall operate or allow the operation of an off-road recreational vehicle on private property that produces a noise when measured at the boundary line of any residentially zoned property, or at the residential yard of any occupied property where the noise is received, that at any time exceeds the following maximum sound levels: 82 decibels between the hours of 7 a.m. and 7 p.m., 77 decibels between the hours of 7 p.m. and 10 p.m. and 55 decibels between the hours of 10 p.m. and 7 a.m.

9.65.070 Exemptions

- (a) This chapter shall not apply to:
 - (1) Emergency work, as defined in this chapter, provided that (A) the person performing the work notifies noise control officer in advance, or as soon as practicable after the emergency and (B) any vehicle, device, apparatus or equipment used, related to or connected with the emergency work is designed, modified or equipped to reduce noise produced to the lowest possible level consistent with effective operation of the vehicle, device, apparatus or equipment.
 - (2) Noise reasonably related to authorized school: (A) bands, (B) athletic activities and (C) routine ceremonies.
 - (3) Sporting, entertainment and public events which are conducted pursuant to a license or permit issued by the County, within the scope of the license or permit. This section is not intended to excuse the act of an individual not participating in the event who violates this chapter.
 - (4) The operation of an emergency generator after a power failure until electrical service by the utility has been restored,
 - (5) The reasonable testing of an emergency generator by any person provided that the testing is conducted between the hours of 7 a.m. and 7 p.m.
 - (6) Any activity preempted by State or federal law.
 - (7) Any noise-producing activities done for agricultural purposes.

- (8) Construction work conducted with a valid building permit between the hours of 7:00 a.m. to 7:00 p.m.
- (9) Use Permits approved prior to the date of adoption for Chapter 9.65, which authorize the noise-generating use or activity and the decision-making body approving the Use Permit provided specific requirements and standards regarding noise level limits.
- (10) Any lawful decision made by a court of law with jurisdiction over a project that modifies, expands, clarifies or otherwise takes action regarding a particular Use Permit or its conditions of approval.

9.65.080 Responsibility for Enforcement

The Sheriff shall have primary responsibility for enforcing sections 050 and 060. When this chapter requires measurements to enforce these sections, the noise control officer shall assist the Sheriff. The noise control officer shall have primary responsibility for enforcing all other sections of this chapter.

9.65.090 Additional Remedies.

The noise control officer is specified for this chapter to be the Planning and Building Services Director or designee; these individuals are also granted authority as an enforcement officer under Lassen County Code, Chapter 1.20 (Administrative Citations). The noise control officer or their designee may order a person to cease violating any section of this chapter that the noise control officer enforces. Any person violating any provision of Chapter 9.65 of the Lassen County Code may be issued an administrative citation by an enforcement officer (Lassen County Code, Chapter 1.20). Any act that violates this chapter is also deemed a Public Nuisance (Lassen County Code [LCC] Chapter 1.18), and the noise control officer may alternatively issue a "Notice of Administrative Order to Show Cause" (LCC 1.18.060) or to summarily abate such a public nuisance (LCC 1.18.200). The resolution of the identified public nuisance relating to a violation of this chapter shall be in accordance with LCC Chapter 1.18.

SECTION THREE: If any section, subsection, sentence, clause, or phase of this ordinance is for any reason held to be unconstitutional and invalid, such decision shall not affect the validity of the remaining portion of this ordinance. The Board of Supervisors hereby declares that it would have passed this ordinance and every section, subsection, sentence, clause or phrase thereof, irrespective of the fact any one or more sections, subsections, sentences, clauses or phrases be declared unconstitutional or invalid.

