

Appendix D Noise Data

Appendices

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LOCAL REGULATIONS AND STANDARDS

Chapter 11: Noise Element

I. Introduction

Noise levels can have a significant impact on quality of life. Excessive levels of noise result in increased neighborhood annoyance, dissatisfaction, and in some cases, health and safety hazards. Due to Los Angeles County's geographic, environmental, and cultural diversity, the levels and types of noise issues vary significantly. The purpose of the Noise Element is to reduce and limit the exposure of the general public to excessive noise levels. The Noise Element sets the goals and policy direction for the management of noise in the unincorporated areas.

II. Background

Sound is the result of a sound source inducing vibration in the air. The vibration produces alternating bands of relatively dense and sparse particles in the air, spreading outward from the source. The result of the movement of the particles is a fluctuation in the normal atmosphere pressure, or sound waves. These waves radiate in all directions from the source and may be reflected and scattered or, like other wave actions, may turn corners. When the source stops vibrating, the sound waves disappear, almost instantaneously, and the sound ceases. The ear is extremely sensitive to sound pressure fluctuations, which are converted into auditory sensations.

Sound may be described by three variables: amplitude, frequency, and time pattern. For more information on sound descriptors, please refer to Appendix G.

Noise Measurement

Noise is often described in qualitative terms, and individuals differ greatly on what noises are considered pleasant or annoying. The community noise metrics used in the Noise Element are either Community Noise Equivalent Level (CNEL) or Day-Night Average Level (Ldn). CNEL and Ldn are the metrics used to describe annoyance due to noise and to establish land use planning criteria regarding noise.

Community Noise Equivalent Level (CNEL)

CNEL is the average equivalent A-weighted sound level during a 24-hour day that is obtained after the addition of five decibels to sound levels in the evening, from 7 p.m. to 10 p.m., and after the addition of 10 decibels to sound levels in the evening, from 10 p.m. to 7 a.m. The CNEL metric is currently used by the California Aeronautics Code for the evaluation of noise impacts at airports. Local compliance with the state airport standard requires that community noise levels be expressed in CNEL.

Day-Night Average Level (Ldn)

Ldn is the average equivalent A-weighted sound level during a 24-hour day that is obtained after the addition of 10 decibels to sound levels in the evening, after 10 p.m. and before 7 a.m. The Ldn represents a simplification of CNEL.

For more information on basic levels of noise measurement, please refer to Appendix G.

Noise Environment

The typical community noise environment is made up of background or “ambient noise,” and higher, “intrusive” levels of noise. In the unincorporated areas, the major sources of noise come from transportation systems, such as commercial and private airports, rail and bus networks, and the regional freeway and highway system. Other major sources of noise have historically been identified with industrial uses, such as manufacturing plants.

Effects of Noise

Noise by definition is unwanted sound. It is an intrusion on one’s sense of privacy. Noise can be an emotional strain and a source of great frustration when the noise is beyond a person’s control. Noise may interfere with a broad range of human activities, the overall effect of which is to cause annoyance.

The potential effects of noise on humans include the following:

- Hearing loss;
- Non-auditory physiological response;
- Communication interference;
- Performance interference;
- Sleep disturbance;
- Subjective response; and
- Community response.

Hearing Loss

Exposure to sufficient levels of noise for long periods of time can produce temporary or permanent loss of hearing. Noise levels have been identified as protective of the hearing of the general population from significant damage due to environmental noise. Environmental noise differs from workplace noise in that it is generally intermittent, covers 365 days per year rather than 250 work days, and covers 24 hours per day rather than 8 hours. Taking these factors into account, the U.S. Environmental Protection Agency (EPA) has identified an environmental noise level of $Leq(24) = 70$ dB to protect 96 percent of the general population from a hearing loss of greater than 5 dB at 4000 Hz.

Non-Auditory Physiological Response

Excessive exposure to noise may contribute to the development and aggravation of stress-related conditions, such as high blood pressure, coronary diseases, ulcers, colitis, and migraine headaches. U.S.EPA studies suggest the possibility of adverse health outcomes associated with environmental noise and underscore the need for additional research. Although it is reasonable to view annoyance as a symptom or sign of noise-induced stress, no direct test of this relationship has been made.

Communication Interference

The indirect effects of speech interference are:

- Disturbance of normal domestic or educational activities;

- Creation of an undesirable living environment;
- Safety hazards; and
- A source of extreme annoyance.

The appropriate noise levels to prevent outdoor speech interference (oral communication) for the outdoors, depends on the voice level and communication distance. For example, at a distance of two meters from the speaker with a normal voice (70 dB) the sound level that would allow communication with 95 percent intelligibility is 60 dB. Indoors, an Ldn of 50 dB permits virtually 100 percent intelligibility. For older populations and people with hearing problems, the background noise would be lower.

High levels of noise reduce the number of conversations and their content, quality, and fidelity. Children have a relative lack of knowledge of language that makes them less able to “hear” speech when some of the cues are lost. Repeated exposure to high levels of noise in “critical periods of development” might affect conceptual development and the acquisition of speech, language, and language-related skills, such as reading and listening.

Performance Interference

In general, noise is more likely to reduce the accuracy than the total quantity of work, and it affects complex tasks more than simpler ones. As noise levels increase, both reaction times and numbers of errors increase. For some simple tasks, noise may enhance performance (when distracting cues are dropped out). Factors to consider on how noise affects work performance include: the characteristics of noise; characteristics of the task; aspects of performance considered important; and individual differences.

Noise levels most likely to be detrimental to performance are:

- Continuous noise levels above 90 dB; and
- Levels less than 90 dB, if they have predominantly high frequency components, are intermittent, unexpected, or uncontrollable.

According to the U.S. EPA, field studies demonstrate that high noise levels have been corroborated with poor performance on reading tests and auditory discrimination problems.

Sleep Disturbance

Sleep disturbance is one of the major causes of annoyance due to noise. Long-term or chronic sleep disturbance may lead to health disorders. In general, the higher the noise level, the greater the probability of a response. For example, a study found that there was a 5 percent probability of subjects being awakened by peak levels of 40 dB and a 30 percent probability at 70 dB. If the number of sound peaks increases, an individual will take longer to fall asleep, even if the average sound level decreases. However, continuous or very frequent noise throughout the night, even as high as 95 dB, appears to cause little change in the average duration of the sleep stages, since such stages are disturbed more by peaks than by high continuous levels alone.

Subjective Response

Excessive noise exposure can result in a variety of psychological responses or symptoms in an individual. The physical attributes of noise that can affect an individual’s subjective response include apparent loudness or intensity, spectral shape, presence of discrete frequency components,

abruptness or impulsiveness, intermittency, duration, and temporal variations. Other factors include the time of day, the activity interfered with, the ability to control the source and the information content, and personal factors.

Sounds of two KHz or higher are generally the most annoying and disruptive, although noises that are abrupt, intermittent, or fluctuate with time can be very annoying as well. In general, the louder the noise, the more annoying it is likely to be.

Community Response

Community response to noise is usually studied through social surveys. These studies attempt to predict, on an aggregate basis, the degree of annoyance or other effects that can be expected by the community at varying noise levels. Community response to noise is based on statistical averages, since it is known that response to noise varies greatly among individuals.

The most stable indicator of annoyance is the percentage of exposed persons who rate themselves as being highly annoyed. According to the U.S. EPA, there is a relationship between annoyance, complaints, and community reaction as a function of day-night sound levels. Approximately 17 percent of the population will be highly annoyed at an Ldn of 55 dB, and over 40 percent of the population will be highly annoyed if the Ldn exceeds 70 dB, which is the maximum safe level that the U.S. EPA has identified to protect against the risk of hearing loss. The relationship between noise and annoyance is based largely on the results of surveys around airports. These estimates have been criticized because aircraft noise is not present in many urban areas. In addition, complaints occur at a much lower rate than annoyance, and generally do not become evident until the noise levels are very high. For example, at an Ldn of 70 dB, approximately 10 percent of the population can be expected to complain, while 25 to 40 percent of the population will be annoyed.

Table 11.1 lists disturbances from excessive noise that range from minor sleep annoyance to potential hearing loss. Schools and hospitals, and other land uses that house sensitive receptors, or those at high risk of being affected by high noise levels, are considered noise-sensitive uses. In addition to the effects on human physiology and behavior, excessive noise impacts other species. For example, birds living in noisier environments tend to sing louder at night.

Table 11.1: Sources and Effects of Common Noise

dB	Effects	Observation	Source
130	Hearing loss	Pain threshold	Hard rock band Thunder
120		Deafening	
110			Jet take-off
100			Loud auto horn at 10 ft.
90		Very loud	Noisy city street
85			
80			School cafeteria
75			

70	Physiological effects	Loud	Vacuum cleaner at 10 ft.
65			
60	Interference with speech	Loud	Normal speech at 3 ft.
55			
50	Sleep interruption	Moderately loud	Average office Dishwasher in next room
45			
40	Sleep disturbance	Moderately loud	Soft radio music Quiet residential area
35			
30		Faint	Interior of average residence
20			Average whisper at 6 ft.
10			Rustle of leaves in wind
5		Very faint	Human breathing
0	Audibility threshold		

Source: Compilation of scientific and academic literature, generated by FHWA and U.S. EPA.

Community Attitudes Toward Noise Impacts

Countywide outreach efforts for the General Plan reveal that both urban and rural communities experience neighborhood disturbances, such as barking dogs, leaf blowers, garbage trucks, buses, back-up alarms, permanent amplified noise (i.e., PA systems), and motorcycles. Urban residential areas seemed to be affected by commercial and industrial spillover noise, such as trucks making late night deliveries at neighborhood shopping centers. Virtually all communities objected to noise generated by freeways and major arterials. All communities reacted to aircraft noise to some extent, with the strongest reaction from those whose homes and businesses lie beneath the flight path of major airports.

In compliance with the County Noise Ordinance, the Los Angeles County Department of Public Health (DPH) has performed noise complaint assessments and surveys from 1996 through 1999. During this period, DPH responded to a total of 111 noise complaints under its statutory authority. It should be noted, however, that the quantification of complaints should not be used solely as a definitive expression of community response.

Regulatory Framework

The following section outlines federal, state and county noise-level standards.

Federal Regulations

The adverse impact of noise was officially recognized by the federal government in the Noise Control Act of 1972, which serves three purposes:

- Promulgating noise emission standards for interstate commerce;
- Assisting state and local abatement efforts; and
- Promoting noise education and research.

The Office of Noise Abatement and Control (ONAC) was initially tasked with implementing the Noise Control Act. However, the ONAC has since been eliminated, leaving the development of federal noise policies and programs to other federal agencies and inter-agency committees. For example, the Occupational Safety and Health Administration (OSHA) agency prohibits exposure of workers to excessive sound levels. The U.S. Department of Transportation (DOT) assumed a significant role in noise control through its various operating agencies, such as with the Federal Aviation Administration (FAA), which regulates noise generated by aircraft and airports. Surface transportation system noise is regulated by a host of agencies, including the Federal Transit Administration (FTA), which requires that all rail systems receiving federal funding be constructed and operated in accordance with its regulations and specifications. The Federal Railroad Administration (FRA) sets forth and enforces safety standards, including noise emissions within railroad locomotive cabs. Transit noise is regulated by the FTA, while freeways that are part of the interstate highway system are regulated by the Federal Highway Administration (FHWA). The FHWA has adopted and promulgated noise abatement criteria for highway construction projects. The federal government encourages local jurisdictions to use their land use regulatory authority to site new development to minimize potential noise impacts. For information on federal guidelines for acceptable environmental noise levels, please refer to Appendix G.

State Regulations

A major source of excessive noise is airports. Title 21 of the California Code of Regulations establishes the maximum acceptable level of aircraft noise in proximity to residences, schools, hospitals, and places of assembly at 65 dB CNEL. The County's Airport Land Use Plan was adopted by the Airport Land Use Commission (ALUC) in 1991 and contains noise contours based on the state standards for all public use airports within Los Angeles County. Figure 11.1 shows these noise contours, and includes updated noise contour data where available. The County's Airport Land Use Plan can be found on the Los Angeles County Department of Regional Planning's web site, located at <http://planning.lacounty.gov/ALUC>.

Figure 11.1: Airport Noise Contours Map

Additional state regulatory codes that relate to noise abatement include:

- Uniform Building Code: Title 24 of the California Code of Regulations requires certain noise insulation measures to be used in the design of all new residential construction other than detached, single family dwellings;
- Vehicle Code: Establishes maximum noise levels for motor vehicles; and
- California Code of Regulations: Establishes maximum acceptable levels of aircraft noise.

The California Department of Health Service's Office of Noise Control (ONC), established in 1973, was instrumental in developing regulatory tools to control and abate noise for use by local agencies. One significant model is the Land Use Compatibility for Community Noise Environments Matrix, which allows a local jurisdiction to clearly delineate the compatibility of sensitive uses with various incremental levels of noise. The County has adapted this matrix to develop the County's exterior noise standards, as seen in Table 11.2.

County Regulations

The County maintains the health and welfare of its residents with respect to noise through nuisance abatement ordinances and land use planning. The County Noise Control Ordinance, Title 12 of the County Code, was adopted by the Los Angeles County Board of Supervisors in 1977 "...to control unnecessary, excessive, and annoying noise and vibration...." It declares that the purpose of the County policy is to "...maintain quiet in those areas which exhibit low noise levels and to implement programs aimed at reducing noise in those areas within the county where noise levels are above acceptable values." (Section 12.08.010 of the County Code).

On August 14, 2001, the Board of Supervisors approved an ordinance amending Title 12 of the County Code to prohibit loud, unnecessary, and unusual noise that disturbs the peace and/or quiet of any neighborhood or which causes discomfort or annoyance to any reasonable person of normal sensitivity residing in the area. Regulations can include requirements for sound barriers, mitigation measures to reduce excessive noise, or the placement and orientation of buildings, and can specify the compatibility of different uses with varying noise levels, as shown in Table 11.2. For more information on noise barrier strategies, please see Appendix G.

Table 11.2: Los Angeles County Community Noise Criteria

Noise Zone	Land Use of Receptor Property	Time	Level (dBA)				Std5L0 at no time
			Std 1L5030 min/hr	Std 2L2515 min/hr	Std 3L8.35 min/hr	Std 4L1.71 min/hr	
I	Noise Sensitive	Anytime	45	50	55	60	65
II	Residential	10PM to 7AM	45	50	55	60	65
		7AM to 10PM	50	55	60	65	70
III	Commercial	10PM to 7AM	55	60	65	70	75
		7AM to 10PM	60	65	70	75	80
IV	Industrial	Anytime	70	75	80	85	90

Source: Section 12.08.390 of the Los Angeles County Code (a portion of the Noise Control Ordinance)

Noise Levels

Figure 11.2 shows the noise contours for major sources of noise. A discussion of current and projected levels for major sources of noise in the unincorporated areas can be found in Section 5.12 Noise and Vibration, and Appendix K of the General Plan Environmental Impact Report.

Figure 11.2: Noise Contours Map

III. Issues

Reducing Noise Impacts Through Planning

Since excessive noise affects quality of life, existing and future noise levels must be considered when making land use planning decisions to minimize exposure to excessive noise. Noise-sensitive uses, such as residences, hospitals, schools, childcare facilities, and places of assembly are especially vulnerable to excessive noises generated by airports, rail, freeways and primary arterials, heavy industry and warehousing facilities. As stated in the noise policies, planning for these noise-sensitive uses must include sufficient spatial separation or site design and construction to ensure compatibility with noise-generating uses.

Coordinated transportation and land use planning plays a critical role in the prevention and mitigation of excessive noise impacts. Federal and state laws, in many instances, preempt local laws from controlling certain sources by setting noise levels and operational procedures for aircraft, motor vehicles, and interstate carriers. Local governments can, whenever they have jurisdictional authority, address these noise problems through a combination of land use planning, building code and zoning regulations, and other policies where a noise abatement program is required.

As specified in Policy N 1.12, decisions on land adjacent to transportation facilities, such as the airports, freeways and other major highways, must consider both existing and future noise levels of these transportation facilities to assure the compatibility of proposed uses.

In addition, the condition of road surfaces and traffic congestion can contribute to vehicle noise. Local roadway design features, traffic management, and traffic calming techniques can minimize noise from traffic speed and frequent vehicle acceleration and deceleration, while innovative roadway paving material can further reduce traffic noise.

IV. Goals and Policies

Goal N 1: The reduction of excessive noise impacts.	
Topic	Policy
Reducing Noise Impacts	Policy N 1.1: Utilize land uses to buffer noise-sensitive uses from sources of adverse noise impacts.
	Policy N 1.2: Reduce exposure to noise impacts by promoting land use compatibility.
	Policy N 1.3: Minimize impacts to noise-sensitive land uses by ensuring adequate site design, acoustical construction, and use of barriers, berms, or additional engineering controls through Best Available Technologies (BAT).

	Policy N 1.4: Enhance and promote noise abatement programs in an effort to maintain acceptable levels of noise as defined by the Los Angeles County Exterior Noise Standards and other applicable noise standards.
	Policy N 1.5: Ensure compliance with the jurisdictions of State Noise Insulation Standards (Title 24, California Code of Regulations and Chapter 35 of the Uniform Building Code), such as noise insulation of new multifamily dwellings constructed within the 60 dB (CNEL or Ldn) noise exposure contours.
	Policy N 1.6: Ensure cumulative impacts related to noise do not exceed health-based safety margins.
	Policy N 1.7: Utilize traffic management and noise suppression techniques to minimize noise from traffic and transportation systems.
	Policy N 1.8: Minimize noise impacts to pedestrians and transit-riders in the design of transportation facilities and mobility networks.
	Policy N 1.9: Require construction of suitable noise attenuation barriers on noise sensitive uses that would be exposed to exterior noise levels of 65 dBA CNEL and above, when unavoidable impacts are identified.
	Policy N 1.10: Orient residential units away from major noise sources (in conjunction with applicable building codes).
	Policy N 1.11: Maximize buffer distances and design and orient sensitive receptor structures (hospitals, residential, etc.) to prevent noise and vibration transfer from commercial/light industrial uses.
	Policy N 1.12: Decisions on land adjacent to transportation facilities, such as the airports, freeways and other major highways, must consider both existing and future noise levels of these transportation facilities to assure the compatibility of proposed uses.

V. Noise Element Implementation Program

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|---|
| <ul style="list-style-type: none"> • Countywide Noise Assessment Survey/County Noise Ordinance Update • Countywide Noise Mapping • Noise Abatement Program |
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For descriptions of these programs, please refer to Chapter 16: General Plan Implementation Programs.

Chapter 12.08 - NOISE CONTROL

Parts:

Part 1 - GENERAL PROVISIONS

12.08.010 - Title for citation.

The ordinance codified in this chapter may be cited as the "noise control ordinance of the county of Los Angeles."

(Ord. 11778 § 2 (Art. 1 § 101), 1978; Ord. 11773 § 2 (Art. 1 § 101), 1978.)

12.08.020 - Declaration of policy—Nuisances deemed misdemeanors.

- A. In order to control unnecessary, excessive and annoying noise and vibration in the county of Los Angeles, it is declared to be the policy of the county to prohibit such noise and vibration generated from any sources as specified in this chapter. It shall be the policy of the county to maintain quiet in those areas which exhibit low noise levels and to implement programs aimed at reducing noise in those areas within the county where noise levels are above acceptable values.
- B. It is determined that certain noise levels and vibration are detrimental to the public health, welfare and safety and contrary to public interest, and therefore the board of supervisors of the county does ordain and declare that creating, maintaining, causing or allowing to be created, caused or maintained any noise or vibration in a manner prohibited by or not in conformity with the provisions of this chapter is a public nuisance and shall be punishable as such.

(Ord. 11778 § 2 (Art. 2 § 201), 1978; Ord. 11773 § 2 (Art. 2 § 201), 1978.)

Part 2 - DEFINITIONS

12.08.030 - Terminology—Conformity with ANSI standards.

All terminology used in this chapter, not defined in this Part 2, shall be in conformance with applicable publications of the American National Standards Institute (ANSI) or its successor body.

(Ord. 11778 § 2 (Art. 3 § 301), 1978; Ord. 11773 § 2 (Art. 3 § 301), 1978.)

12.08.040 - Definitions applicable.

The following words, phrases and terms as used in this chapter shall have the meanings as indicated in this Part 2.

(Ord. 11778 § 2 (Art. 3 § 302 (part)), 1978; Ord. 11773 § 2 (Art. 3 § 302 (part)), 1978.)

12.08.050 - Agricultural property.

"Agricultural property" means a parcel of real property which is undeveloped for any use other than agricultural purposes.

(Ord. 11778 § 2 (Art. 3 § 302(a)), 1978; Ord. 11773 § 2 (Art. 3 § 302(a)), 1978.)

12.08.060 - Ambient noise histogram.

"Ambient noise histogram" means the composite of all noise from sources near and far, excluding the alleged intrusive noise source. In this context, the ambient noise histogram shall constitute the normal or existing level of environmental noise at a given location.

(Ord. 11778 § 2 (Art. 3 § 302(b)), 1978; Ord. 11773 § 2 (Art. 3 § 302(b)), 1978.)

12.08.070 - A-weighted sound level.

"A-weighted sound level" means the sound level in decibels as measured on a soundlevel meter using the A-weighting network. The level so read is designated dB (A) or dBA.

(Ord. 11778 § 2 (Art. 3 § 302(c)), 1978; Ord. 11773 § 2 (Art. 3 § 302(c)), 1978.)

12.08.080 - Commercial property.

"Commercial property" means a parcel of real property which is developed and used either in part or in whole for commercial purposes. In cases of multiple land uses of any property, the county zoning classification of such property pursuant to county Ordinance 1494, as amended, shall be applicable. (See [Title 22](#) of this code.)

(Ord. 11778 § 2 (Art. 3 § 302(d)), 1978; Ord. 11773 § 2 (Art. 3 § 302(d)), 1978.)

12.08.090 - Construction.

"Construction" means any site preparation, assembly, erection, substantial repair, alteration, or similar action, for or of public or private rights-of-way, structures, utilities, or similar property.

(Ord. 11778 § 2 (Art. 3 § 302(e)), 1978; Ord. 11773 § 2 (Art. 3 § 302(e)), 1978.)

12.08.100 - Cumulative period.

"Cumulative period" means an additive period of time composed of individual time segments which may be continuous or interrupted.

(Ord. 11778 § 2 (Art. 3 § 302(f)), 1978; Ord. 11773 § 2 (Art. 3 § 302(f)), 1978.)

12.08.110 - Decibel.

"Decibel" means a unit for measuring the amplitude of a sound, equal to 20 times the logarithm to the base of 10 of the ratio of the pressure of the sound measured to the reference pressure, which is 20 micropascals.

(Ord. 11778 § 2 (Art. 3 § 302(g)), 1978; Ord. 11773 § 2 (Art. 3 § 302(g)), 1978.)

12.08.120 - Dwelling unit.

"Dwelling unit" means a single unit providing complete independent living facilities for one or more persons, including permanent provisions for living, sleeping, eating, cooking and sanitation.

(Ord. 11778 § 2 (Art. 3 § 302(h)), 1978; Ord. 11773 § 2 (Art. 3 § 302(h)), 1978.)

12.08.130 - Emergency machinery, vehicle or alarm.

"Emergency machinery, vehicle or alarm" means any machinery, vehicle or alarm used, employed, performed or operated in an effort to protect, provide or restore safe conditions in the community or for the citizenry, or work by private or public utilities when restoring utility service.

(Ord. 11778 § 2 (Art. 3 § 302(i)), 1978: Ord. 11773 (Art. 3 § 302(i)), 1978.)

12.08.140 - Emergency work.

"Emergency work" means any work performed for the purpose of preventing or alleviating the physical trauma or property damage threatened or caused by an emergency.

(Ord. 11778 § 2 (Art. 3 § 302(j)), 1978: Ord. 11773 (Art. 3 § 302(j)), 1978.)

12.08.150 - Fixed noise source.

"Fixed noise source" means a stationary device which creates sounds while fixed or motionless, including but not limited to residential, agricultural, industrial and commercial machinery and equipment, pumps, fans, compressors, air conditioners and refrigeration equipment.

(Ord. 11778 § 2 (Art. 3 § 302(k)), 1978: Ord. 11773 (Art. 3 § 302(k)), 1978.)

12.08.160 - Grading.

"Grading" means any excavating or filling of earth material or any combination thereof conducted at a site to prepare said site for construction or other improvements thereon.

(Ord. 11778 § 2 (Art. 3 § 302(1)), 1978: Ord. 11773 (Art. 3 § 302(1)), 1978.)

12.08.170 - Health care institution.

"Health care institution" means any hospital, convalescent home, or other similar facilities which provide health care, medical treatment, room, board or other services for the ill, retarded or convalescent.

(Ord. 11778 § 2 (Art. 3 § 302(m)), 1978: Ord. 11773 (Art. 3 § 302(m)), 1978.)

12.08.180 - Health officer.

"Health officer" means the director of the department of public health of the county of Los Angeles, or his duly authorized representative.

(Ord. 2006-0040 § 106, 2006: Ord. 11778 § 2 (Art. 3 § 302(n)), 1978: Ord. 11773 (Art. 3 § 302(n)), 1978.)

12.08.190 - Impulsive noise.

"Impulsive noise" means a sound of short duration, usually less than one second and of high intensity, with an abrupt onset and rapid decay.

(Ord. 11778 § 2 (Art. 3 § 302(o)), 1978: Ord. 11773 (Art. 3 § 302 (o)), 1978.)

12.08.200 - Industrial property.

"Industrial property" means property which is developed and used either in part or in whole for manufacturing purposes. In cases of multiple land uses of any property, the county zoning classification of such property pursuant to county Ordinance 1494, as amended, shall be applicable. (See [Title 22](#) of this code.)

(Ord. 11778 § 2 (Art. 3 § 302(p)), 1978; Ord. 11773 § 2 (Art. 3 § 302(p)), 1978.)

12.08.210 - Intrusive noise.

"Intrusive noise" means that alleged offensive noise which intrudes over and above the existing ambient noise at the receptor property.

(Ord. 11778 § 2 (Art. 3 § 302(q)), 1978; Ord. 11773 § 2 (Art. 3 § 302(q)), 1978.)

12.08.220 - Mobile noise source.

"Mobile noise source" means any noise source other than a fixed noise source.

(Ord. 11778 § 2 (Art. 3 § 302(r)), 1978; Ord. 11773 § 2 (Art. 3 § 302(r)), 1978.)

12.08.230 - Noise disturbance.

"Noise disturbance" means an alleged intrusive noise which violates an applicable noise standard as set forth in this chapter.

(Ord. 11778 § 2 (Art. 3 § 302(s)), 1978; Ord. 11773 § 2 (Art. 3 § 302(s)), 1978.)

12.08.240 - Noise histogram.

"Noise histogram" means a graphical representation of the distribution of frequency of occurrence of all noise levels near and far measured over a given period of time.

(Ord. 11778 § 2 (Art. 3 § 302(u)), 1978; Ord. 11773 § 2 (Art. 3 § 302(u)), 1978.)

12.08.250 - Noise level (L).

"Noise level (L_N)" means that noise level expressed in decibels which exceeds the specified (L_N) value as a percentage of total time measured. For instance, an L_{25} noise level means that noise level which is exceeded 25 percent of the time measured.

(Ord. 11778 § 2 (Art. 3 § 302(v)), 1978; Ord. 11773 § 2 (Art. 3 § 302(v)), 1978.)

12.08.260 - Noise-sensitive zone.

"Noise-sensitive zone" means any area designated pursuant to Part 4 of this chapter for the purpose of ensuring exceptional quiet.

(Ord. 11778 § 2 (Art. 3 § 302(t)), 1978; Ord. 11773 § 2 (Art. 3 § 302(t)), 1978.)

12.08.270 - Noise zone.

"Noise zone" means any defined area or region of a generally consistent land use, as described in [Section 12.08.380](#).

(Ord. 11778 § 2 (Art. 3 § 302(w)), 1978; Ord. 11773 § 2 (Art. 3 § 302(w)), 1978.)

12.08.280 - Person.

"Person" means any individual, firm, association, partnership, joint venture, or corporation.

(Ord. 11778 § 2 (Art. 3 § 302(x)), 1978; Ord. 11773 § 2 (Art. 3 § 302(x)), 1978.)

12.08.290 - Powered model vehicle.

"Powered model vehicle" means any self-propelled airborne, waterborne or landborne plane, vessel or vehicle which is not designed to carry individuals, including but not limited to any model airplane, boat, car or rocket.

(Ord. 11778 § 2 (Art. 3 § 302(y)), 1978; Ord. 11773 § 2 (Art. 3 § 302(y)), 1978.)

12.08.300 - Public right-of-way.

"Public right-of-way" means any street, avenue, boulevard, highway, sidewalk or alley, or similar place, which is owned or controlled by a governmental entity.

(Ord. 11778 § 2 (Art. 3 § 302(z)), 1978; Ord. 11773 § 2 (Art. 3 § 302(z)), 1978.)

12.08.310 - Pure tone noise.

"Pure tone noise" means any sound which can be judged as audible as a single pitch or a set of single pitches by the health officer, for the purposes of this chapter, a pure tone shall exist if the one-third octave band sound-pressure level in the band with the tone exceeds the arithmetic average of the sound-pressure levels of the two contiguous one-third octave bands by 5 dB for center frequencies of 500 Hertz and above, and by 8 dB for center frequencies between 160 and 400 Hertz, and by 15 dB for center frequencies less than or equal to 125 Hertz.

(Ord. 11778 § 2 (Art. 3 § 302(aa)), 1978; Ord. 11773 § 2 (Art. 3 § 302(aa)), 1978.)

12.08.320 - Real property boundary.

"Real property boundary" means an imaginary line along the ground surface, and its vertical extension, which separates the real property owned by one person from that owned by another person, but not including intra-building real property divisions.

(Ord. 11778 § 2 (Art. 3 § 302(bb)), 1978; Ord. 11773 § 2 (Art. 3 § 302(bb)), 1978.)

12.08.330 - Residential property.

"Residential property" means a parcel of real property which is developed and used either in part or in whole for residential purposes, other than transient uses such as hotels and motels. In cases of multiple land uses of any property, the county zoning classification of such property pursuant to county Ordinance 1494, as amended, shall be applicable.

(Ord. 11778 § 2 (Art. 3 § 302(cc)), 1978; Ord. 11773 § 2 (Art. 3 § 302(cc)), 1978.)

12.08.340 - Sound level meter.

"Sound level meter" means an instrument, including a microphone, an amplifier, an output meter and frequency weighting network, for the measurement of sound levels, which satisfies the requirements pertinent for Type S2A meters in American National Standards Institute specifications for sound level meters, S1.4-1971, or the most recent revision thereof.

(Ord. 11778 § 2 (Art. 3 § 302(dd)), 1978; Ord. 11773 § 2 (Art. 3 § 302(dd)), 1978.)

12.08.350 - Vibration.

"Vibration" means the minimum ground or structure-borne vibrational motion necessary to cause a normal person to be aware of the vibration by such direct means as, but not limited to, sensation by touch or visual observations of moving objects. The perception threshold shall be presumed to be a motion velocity of 0.01 in/sec over the range of 1 to 100 Hertz.

(Ord. 11778 § 2 (Art. 3 § 302(ee)), 1978; Ord. 11773 § 2 (Art. 3 § 302(ee)), 1978.)

12.08.360 - Weekday.

"Weekday" means any day, Monday through Friday, which is not a legal holiday.

(Ord. 11778 § 2 (Art. 3 § 302(ff)), 1978; Ord. 11773 § 2 (Art. 3 § 302(ff)), 1978.)

Part 3 - COMMUNITY NOISE CRITERIA

12.08.370 - Decibel measurement—Basis.

Any decibel measurement made pursuant to the provisions of this chapter shall be based on a reference sound-pressure of 20 micropascals, as measured with a sound level meter using the A-weighted network (scale) at slow response, or at the fast response when measuring impulsive sound levels and vibrations.

(Ord. 11778 § 2 (Art. 4 § 401), 1978; Ord. 11773 § 2 (Art. 4 § 401), 1978.)

12.08.380 - Noise zones designated.

Receptor properties described hereinafter in this chapter are hereby assigned to the following noise zones:

Noise Zone I—Noise-sensitive area; Noise Zone II—Residential properties; Noise Zone III—Commercial properties; Noise Zone IV—Industrial properties.

(Ord. 11778 § 2 (Art. 4 § 402), 1978; Ord. 11773 § 2 (Art. 4 § 402), 1978.)

12.08.390 - Exterior noise standards—Citations for violations authorized when.

- A. Unless otherwise herein provided, the following exterior noise levels shall apply to all receptor properties within a designated noise zone:

Noise Zone	Designated Noise Zone Land Use (Receptor property)	Time Interval	Exterior Noise Level (dB)
I	Noise-sensitive area	Anytime	45
II	Residential properties	10:00 pm to 7:00 am (nighttime)	45
		7:00 am to 10:00 pm (daytime)	50
III	Commercial properties	10:00 pm to 7:00 am (nighttime)	55
		7:00 am to 10:00 pm (daytime)	60
IV	Industrial properties	Anytime	70

- B. Unless otherwise herein provided, no person shall operate or cause to be operated, any source of sound at any location within the unincorporated county, or allow the creation of any noise on property owned, leased, occupied or otherwise controlled by such person which causes the noise level, when measured on any other property either incorporated or unincorporated, to exceed any of the following exterior noise standards:

Standard No. 1 shall be the exterior noise level which may not be exceeded for a cumulative period of more than 30 minutes in any hour. Standard No. 1 shall be the applicable noise level from subsection A of this section; or, if the ambient L50 exceeds the foregoing level, then the ambient L50 becomes the exterior noise level for Standard No. 1.

Standard No. 2 shall be the exterior noise level which may not be exceeded for a cumulative period of more than 15 minutes in any hour. Standard No. 2 shall be the applicable noise level from subsection A of this section plus 5dB; or, if the ambient L25 exceeds the foregoing level, then the ambient L25 becomes the exterior noise level for Standard No. 2.

Standard No. 3 shall be the exterior noise level which may not be exceeded for a cumulative period of more than five minutes in any hour. Standard No. 3 shall be the applicable noise level from subsection A of this section plus 20dB; or, if the ambient L8.3 exceeds the foregoing level, then the ambient L8.3 becomes exterior noise level for Standard No. 3.

Standard No. 4 shall be the exterior noise level which may not be exceeded for a cumulative period of more than one minute in any hour. Standard No. 4 shall be the applicable noise level from subsection A of this section plus 15dB; or, if the ambient L1.7 exceeds the foregoing level, then the ambient L1.7 becomes the exterior noise level for Standard No. 4.

Standard No. 5 shall be the exterior noise level which may not be exceeded for any period of time. Standard No. 5 shall be the applicable noise level from subsection A of this section plus 20dB; or, if the ambient L0 exceeds the foregoing level then the ambient L0 becomes the exterior noise level for Standard No. 5.

- C. If the measurement location is on a boundary property between two different zones, the exterior noise level utilized in subsection B of this section to determine the exterior standard shall be the arithmetic mean of the exterior noise levels in subsection A of the subject zones. Except as provided for above in this subsection C, when an intruding noise source originates on an industrial property and is impacting another noise zone, the applicable exterior noise level as designated in subsection A shall be the daytime exterior noise level for the subject receptor property.
- D. The ambient noise histogram shall be measured at the same location along the property line utilized in subsection B of this section, with the alleged intruding noise source inoperative. If for any reason the alleged intruding noise source cannot be turned off, the ambient noise histogram will be estimated by performing a measurement in the same general area of the alleged intruding noise source but at a sufficient distance such that the noise from the alleged intruding noise source is at least 10dB below the ambient noise histogram in order that only the actual ambient noise histogram be measured. If the difference between the ambient noise histogram and the alleged intruding noise source is 5 to 10dB, then the level of the ambient noise histogram itself can be reasonably determined by subtracting a one-decibel correction to account for the contribution of the alleged intruding noise source.
- E. In the event the intrusive exceeds the exterior noise standards as set forth in subsections B and C of this section at a specific receptor property and the health officer has reason to believe that this violation at said specific receptor property was unanticipated and due to abnormal atmospheric conditions, the health officer shall issue an abatement notice in lieu of a citation. If the specific violation is abated, no citation shall be issued therefor. If, however, the specific violation is not abated, the health officer may issue a citation.

(Ord. 11778 § 2 (Art. 4 § 403), 1978: Ord. 11773 § 2 (Art. 4 § 403), 1978.)

12.08.400 - Interior noise standards.

- A. No person shall operate or cause to be operated within a dwelling unit, any source of sound, or allow the creation of any noise, which causes the noise level when measured inside a neighboring receiving dwelling unit to exceed the following standards:

Standard No. 1 The applicable interior noise level for cumulative period of more than five minutes in any hour; or

Standard No. 2 The applicable interior noise level plus 5dB for a cumulative period of more than one minute in any hour;

or

Standard No. 3 The applicable interior noise level plus 10dB or the maximum measured ambient noise level for any period of time.

- B. The following interior noise levels for multifamily residential dwellings shall apply, unless otherwise specifically in within all such dwellings with windows in their normal seasonal configuration.

Noise Zone	Designated Land Use	Time Interval	Allowable Interior Noise Level (dB)
All	Multifamily	10 pm—7 am	40
	Residential	7 am—10 pm	45

- C. If the measured ambient noise level reflected by the L50 exceeds that permissible within any of the interior noise standards in subsection A of Section 12.08.390, the allowable interior noise level shall be increased in 5dB increments in each standard as appropriate to reflect said ambient noise level (L50).

(Ord. 11778 § 2(Art. 4 § 404), 1978: Ord. 11773 § 2 (Art. 4 § 404), 1978.)

12.08.410 - Correction for certain types of sounds.

For any source of sound which emits a pure tone or impulsive noise, the noise levels as set forth in Sections 12.08.390 and 12.08.400 shall be reduced by five decibels.

(Ord. 11778 § 2 (Art. 4 § 405), 1978: Ord. 11773 § 2 (Art. 4 § 405), 1978.)

12.08.420 - Measurement methods.

- A. Utilizing the A-weighting scale of the sound-level meter and the "slow" meter response (use "fast" response for impulsive type sounds), the noise level shall be measured at a position or positions at any point on the receiver's property.
- B. In general, the microphone shall be located four to five feet above the ground; 10 feet or more from the nearest reflective surface, where possible. However, in those cases where another elevation is deemed appropriate, the latter shall be utilized.
- C. Interior noise measurements shall be made within the affected residential unit. The measurements shall be made at a point at least four feet from the wall, ceiling or floor nearest the noise source, with windows in the normal seasonal configuration. Calibration of the measurement equipment, utilizing an acoustic calibrator, shall be performed immediately prior to recording any noise data.

(Ord. 11778 § 2 (Art. 4 § 406), 1978: Ord. 11773 § 2 (Art. 4 § 406), 1978.)

Part 4 - SPECIFIC NOISE RESTRICTIONS

12.08.430 - Acts deemed violations when.

Notwithstanding any other provisions of this chapter, the acts set out in this Part 4, and the causing or permitting thereof, are declared to be in violation of this chapter.

(Ord. 11778 § 2 (Art. 5 § 501 (part)), 1978: Ord. 11773 § 2 (Art. 5 § 501 (part)), 1978.)

12.08.440 - Construction noise.

- A. Operating or causing the operation of any tools or equipment used in construction, drilling, repair, alteration or demolition work between weekday hours of 7:00 p.m. and 7:00 a.m., or at any time on Sundays or holidays, such that the sound therefrom creates a noise disturbance across a residential or commercial real-property line, except for emergency work of public service utilities or by variance issued by the health officer is prohibited.
- B. Noise Restrictions at Affected Structures. The contractor shall conduct construction activities in such a manner that the maximum noise levels at the affected buildings will not exceed those listed in the following schedule:
 - 1. At Residential Structures.
 - a. Mobile Equipment. Maximum noise levels for nonscheduled, intermittent, short-term operation (less than 10 days) of mobile equipment:

	Single-family Residential	Multi-family Residential	Semiresidential/ Commercial
Daily, except Sundays and legal holidays, 7:00 a.m. to 8:00 p.m.	75dBA	80dBA	85dBA
Daily, 8:00 p.m. to 7:00 a.m. and all day Sunday and legal holidays	60dBA	64dBA	70dBA

- b. Stationary Equipment. Maximum noise level for repetitively scheduled and relatively long-term operation (periods of 10 days or more) of stationary equipment:

	Single-family Residential	Multi-family Residential	Semiresidential/ Commercial
Daily, except Sundays and legal holidays, 7:00 a.m. to 8:00 p.m.	60dBA	65dBA	70dBA
Daily, 8:00 p.m. to 7:00 a.m. and all day Sunday and legal holidays	50dBA	55dBA	60dBA

2. At Business Structures.

- a. Mobile equipment. Maximum noise levels for nonscheduled, intermittent, short-term operation of mobile equipment:

Daily, including Sunday and legal holidays, all hours: maximum of 85dBA.

- C. All mobile or stationary internal-combustion-engine powered equipment or machinery shall be equipped with suitable exhaust and air-intake silencers in proper working order.
- D. In case of a conflict between this chapter and any other ordinance regulating construction activities, provisions of any specific ordinance regulating construction activities shall control.

(Ord. 11778 § 2 (Art. 5 § 501(c)), 1978; Ord. 11778 § 2 (Art. 5 § 501(c)), 1978.)

12.08.450 - Forced-air blowers in tunnel car washes.

Operating or permitting the operation of any forced-air blower in a tunnel car wash between the hours of 7:00 a.m. and 8:00 p.m. in such a manner as to exceed any of the following sound levels is prohibited:

	Units Installed	
Measurement Location	Before 1-1-80 dB	On or After 1-1-80 dB
Any point on contiguous receptor property, five feet above grade level, no closer than three feet from any wall		
Residential	70	60
Commercial/Industrial	75	65

(Ord. 11778 § 2 (Art. 5 § 501(m)), 1978: Ord. 11773 § 2 (Art. 5 § 501(m)), 1978.)

12.08.460 - Loading and unloading operations.

Loading, unloading, opening, closing or other handling of boxes, crates, containers, building materials, garbage cans or similar objects between the hours of 10:00 p.m. and 6:00 a.m. in such a manner as to cause noise disturbance is prohibited.

(Ord. 11778 § 2 (Art. 5 § 501(b)), 1978: Ord. 11773 § 2 (Art. 5 § 501(b)), 1978.)

12.08.470 - Noise disturbances in noise-sensitive zones.

- A. Creating or causing the creation of any noise disturbance within any noise-sensitive zone, as designated by the health officer, is prohibited, provided that conspicuous signs are displayed indicating the presence of the zone.
- B. Noise-sensitive zones must be indicated by the display of conspicuous signs in at least three separate locations within 164 meters (one-tenth mile) of the institution or facility.

(Ord. 11778 § 2 (Art. 5 § 501(k)), 1978: Ord. 11773 § 2 (Art. 5 § 501(k)), 1978.)

12.08.480 - Places of public entertainment.

Operating, playing or permitting the operation or playing of any radio, television, phonograph, drum, musical instrument, sound amplifier or similar device which produces, reproduces or amplifies sound in any place of public entertainment at a sound level greater than 95dBA, as read by the slow response on a soundlevel meter at any point that is normally occupied by a customer is prohibited, unless a conspicuous and legible sign is located outside such place, near each public entrance, stating "WARNING: SOUND LEVELS WITHIN MAY CAUSE HEARING IMPAIRMENT."

(Ord. 11778 § 2 (Art. 5 § 501(f)), 1978: Ord. 11773 § 2 (Art. 5 § 501(f)), 1978.)

12.08.490 - Powered model vehicles.

Operating or permitting the operation of powered model vehicles so as to create a noise disturbance across a residential real-property boundary, or within a noise-sensitive zone between the hours of 8:00 p.m. and 7:00 a.m. the following day is prohibited.

(Ord. 11778 § 2 (Art. 5 § 501(g)), 1978; Ord. 11773 § 2 (Art. 5 § 501(g)) 1978.)

12.08.500 - Emergency signaling devices.

- A. The intentional sounding or permitting the sounding outdoors of any emergency signaling device, including fire, burglar or civil-defense alarm, siren, whistle, or similar stationary emergency signaling device, except for emergency purposes or for testing, as provided in subsection B2 below, is prohibited.
- B.
 1. Testing of a stationary emergency signaling device shall not occur before 7:00 a.m. or after 7:00 p.m. Any such testing shall use only the minimum cycle test time. In no case shall such test time exceed 60 seconds.
 2. Testing of the complete emergency signaling system, including the functioning of the signaling device, and the personnel response to the signaling device, shall not occur more than once in each calendar month. Such testing shall not occur before 7:00 a.m. or after 10:00 p.m. The time limit specified in subsection B1 above shall not apply to such complete-system testing.
- C. Sounding or permitting the sounding of any exterior burglar or fire alarm, or any motor-vehicle burglar alarm is prohibited, unless such alarm is terminated within 15 minutes of activation.

(Ord. 11778 § 2 (Art. 5 § 501(i)), 1978; Ord. 11773 § 2 (Art. 5 § 501(i)), 1978.)

12.08.510 - Stationary nonemergency signaling devices.

- A. Sounding or permitting the sounding of any electronically amplified signal from any stationary bell, chime, siren, whistle, or similar device intended primarily for nonemergency purposes, from any place, for more than 10 consecutive seconds in any hourly period is prohibited.
- B. Houses of religious worship shall be exempt for the operation of this provision.
- C. Sound sources covered by this provision and not exempted under subsection B may be exempted by a variance issued by the health officer.

(Ord. 11778 § 2 (Art. 5 § 501(h)), 1978; Ord. 11773 § 2 (Art. 5 § 501(h)), 1978.)

12.08.520 - Refuse collection vehicles.

- A. On or after three years following August 17, 1978, the effective date of the ordinance codified in this chapter, operating or permitting the operation of the compacting mechanism of any motor vehicle which compacts refuse and which creates, during the compacting cycle, a sound level in excess of 86dBA when measured at 50 feet from any point of the vehicle is prohibited.
- B. Operating or permitting the operation of the compacting mechanism of any motor vehicle which compacts refuse between the hours of 10:00 p.m. and 6:00 a.m. the following day in a residential area or noise-sensitive zone, or within 500 feet thereof is prohibited.
- C. Collecting refuse with collection vehicle between the hours of 10:00 p.m. and 6:00 a.m. the following day in a residential area or noise-sensitive zone or within 500 feet thereof.
- D. In the case of conflict between this chapter and any other ordinance regulating refuse collection, provisions of

any specific ordinance regulating refuse collection shall control.

(Ord. 11778 § 2 (Art. 5 § 501(j)), 1978: Ord. 11773 § 2 (Art. 5 § 501(j)), 1978.)

12.08.530 - Residential airconditioning or refrigeration equipment.

Operating or permitting the operation of any airconditioning or refrigeration equipment in such a manner as to exceed any of the following sound levels is prohibited.

Measurement Location	Units Installed Before 1-1-80 dBA	Units Installed On or After 1-1-80 dBA
Any point on neighboring property line, 5 feet above grade level, no closer than 3 feet from any wall.	60	55
Center of neighboring patio, 5 feet above grade level, no closer than 3 feet from any wall.	55	50

<p>Outside the neighboring living area window nearest the equipment location, not more than 3 feet from the window opening, but at least 3 feet from any other surface.</p>	<p>55</p>	<p>50</p>
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(Ord. 11778 § 2 (Art. 5 § 501(1)), 1978: Ord. 11773 § 2 (Art. 5 § 501(1)), 1978.)

12.08.540 - Street sales.

Offering for sale, selling anything, or advertising by shouting or outcry within any residential or commercial area or noise-sensitive zone of the unincorporated areas of the county is prohibited except by variance issued by the health officer. The provisions of this section shall not be construed to prohibit the selling by outcry of merchandise, food and beverages at licensed sporting events, parades, fairs, circuses, or other similar licensed public-entertainment events.

(Ord. 11778 § 2 (Art 5 § 501(a)), 1978: Ord. 11773 § 2 (Art. 5 § 501(a)), 1978.)

12.08.541 - Street sales—Restrictions on sound system speakers.

A person offering for sale, selling or advertising anything edible shall not emit music or other sounds from an external speaker affixed to a motor vehicle between the hours of 8:00 p.m. and 6:00 a.m. within any residential, commercial or noise sensitive-zone of the unincorporated area of the County. The provisions of this section shall not be construed to prohibit the selling by outcry of merchandise, food and beverages, at licensed sporting events, parades, fairs, circuses, or other similar licensed-entertainment events.

(Ord. 2002-0028 § 2, 2002)

12.08.550 - Vehicle or motorboat repairs and testing.

Repairing, rebuilding, modifying or testing any motor vehicle, motorcycle or motorboat in such a manner as to cause a noise disturbance across a real-property boundary or within a noisesensitive zone is prohibited.

(Ord. 11778 § 2 (Art. 5 § 501(e)), 1978: Ord. 11773 § 2 (Art. 5 § 501(e)), 1978.)

12.08.560 - Vibration.

Operating or permitting the operation of any device that creates vibration which is above the vibration perception threshold of any individual at or beyond the property boundary of the source if on private property, or at 150 feet (46 meters) from the source if on a public space or public right-of-way is prohibited. The perception threshold shall be a motion velocity of 0.01 in/sec over the range of 1 to 100 Hertz.

(Ord. 11778 § 2 (Art. 5 § 501(d)), 1978; Ord. 11773 § 2 (Art. 5 § 501(d)), 1978.)

Part 5 - EXEMPTIONS

12.08.570 - Activities exempt from chapter restrictions.

The following activities set out in this chapter shall be exempted from the provisions of this chapter:

- A. Emergency Exemption. The emission of sound for the purpose of alerting persons to the existence of an emergency, or the emission of sound in the performance of emergency work;
- B. Warning Devices. Warning devices necessary for the protection of public safety, as for example police, fire and ambulance sirens, and train horns;
- C. Outdoor Activities. Activities conducted on public playgrounds and public or private school grounds, including but not limited to school athletic and school entertainment events;
- D. Exemption from Exterior Noise Standards. The following activities are exclusively regulated by the prohibitions of Part 4 of this chapter:
 1. Construction,
 2. Stationary nonemergency signaling devices,
 3. Emergency signaling devices,
 4. Refuse collection vehicles,
 5. Residential air-conditioning or refrigeration equipment,
 6. Forced-air blowers;
- E. Motion Picture Production and Related Activities;
- F. Railroad Activities. All locomotives and rail cars operated by any railroad which is regulated by the California Public Utilities Commission;
- G. Federal or State Preexempted Activities. Any activity, to the extent regulation thereof has been preempted by state or federal law;
- H. Public Health and Safety Activities. All transportation, flood control, and utility company maintenance and construction operations at any time on public right-of-way, and those situations which may occur on private real property deemed necessary to serve the best interest of the public and to protect the public's health and well being, including but not limited to street sweeping, debris and limb removal, removal of downed wires, restoring electrical service, repairing traffic signals, unplugging sewers, snow removal, house moving, vacuuming catchbasins, removal of damaged poles and vehicles, repair of water hydrants and mains, gas lines, oil lines, sewers, etc.;
- I. Motor Vehicles on Private Right-of-way and Private Property. Except as provided in Section 12.08.550, all legal vehicles of transportation operating in a legal manner in accordance with local, state and federal vehicle-noise regulations within the public right-of-way or air space, or on private property;

- J. Seismic Surveys Authorized by the State Land Commission;
- K. Agricultural Operations. All mechanical devices, apparatus or equivalent associated with agricultural operations conducted on agricultural property, unless if in the vicinity of residential land uses, in which case a variance permit is required to operate noise-producing devices, with the following stipulations:
 1. Operations do not take place between 8:00 p.m. and 6:00 a.m., or
 2. Such operations and equipment are utilized for the protection or salvage of agricultural crops during periods of potential or actual frost damage or other adverse weather conditions, or
 3. Such operations and equipment are associated with agricultural pest-control through pesticide application, provided the application is made in accordance with permits issued by or regulations enforced by the county agricultural commissioner,
 4. Such devices utilized for pest control which incorporate stationary or mobile noise sources (electro-mechanical birdscare devices, etc.) are operated only by permit issued by the health officer. The allowable hours and days for operation of these devices will be specified in the permit,
 5. All equipment and machinery powered by internal combustion engines shall be equipped with a proper muffler and air-intake silencer in good working order;
- L. Minor Maintenance to Residential Real Property. Noise sources associated with the minor maintenance of residential real property, provided said activities take place as follows:
 1. During Pacific Standard Time between the hours of 8:00 a.m. and 6:00 p.m. on any day except Sunday, when such activities may take place between the hours of 9:00 a.m. and 6:00 p.m., and
 2. During Daylight Savings Time between the hours of 8:00 a.m. and 7:00 p.m. on any day except Sunday, when such activities may take place between the hours of 9:00 a.m. and 6:00 p.m.;
- M. Operation of Oil and Gas Wells.
 1. Normal well servicing, remedial or maintenance work performed within an existing well which does not involve drilling or re-drilling and which is restricted to the hours between 7:00 a.m. and 10:00 p.m., and
 2. Drilling or re-drilling work which is done in full compliance with the conditions of permits issued under Chapter 5, Article 1, of the County Zoning Ordinance, as amended, as set out in Title 22 of this code.

(Ord. 97-0007 § 1, 1997; Ord. 11778 § 2(Art. 6 § 601), 1978; Ord. 11773 § 2 (Art. 6 § 601), 1978.)

Part 6 - VARIANCES

12.08.580 - Conditions for granting variances—Health officer authority.

- A. Variances from the requirements of this chapter may be granted by the health officer for a period of not to exceed two years, subject to such terms, conditions and requirements as he may deem reasonable. A variance may be granted only if the health officer makes the findings that:
 1. Additional time is necessary for the applicant to alter or modify his activity, operation or noise source to comply with this chapter; or
 2. The activity, operation or noise source cannot feasibly be done in a manner that would comply with the provisions of this chapter, and no other reasonable alternative is available to the applicant.
- B. In granting a variance, the health officer may prescribe any conditions or requirements he deems necessary to minimize adverse effects upon the community or the surrounding neighborhood.

- C. In granting variances, the health officer shall consider the magnitude of nuisance caused by the offensive noise, the property within the area of impingement by the noise, operations carried on under existing nonconforming right conditional use permits or zone variances, the time factors related to study, design, financing and construction of work, the economic factors related to age and useful life of the equipment, the general public interest, health and the feasibility of plans submitted for correction, and the effect on the community if the variance was refused.

(Ord. 11778 § 2 (Art. 7 § 701), 1978; Ord. 11773 § 2 (Art. 7 § 701), 1978.)

12.08.590 - Application—Contents.

Every applicant for a variance shall file with the health officer a written application on a form prescribed by the health officer. The application shall state the name and address of the applicant, the nature of the noise source involved, and such other information as the health officer may require.

(Ord. 11778 § 2 (Art. 7 § 702), 1978; Ord. 11773 § 2 (Art. 7 § 702), 1978.)

12.08.600 - Application—Fee.

Every applicant shall pay a fee of \$25.00 for each application for variance.

(Ord. 11778 § 2 (Art. 7 § 703), 1978; Ord. 11773 § 2 (Art. 7 § 703), 1978.)

12.08.610 - Application—Action by health officer.

- A. The health officer shall act, within 30 days, if possible, on an application for a variance, and shall notify the applicant of the action taken, namely, approval, conditional approval, or denial. Before acting on an application for a variance, the health officer may require the applicant to furnish further information. Failure of the applicant to provide such further information may be grounds for denial of the variance.
- B. In the event of denial of an application for a variance, the health officer shall notify the applicant in writing of the reasons therefor. The health officer shall not accept a further application unless the applicant has complied with the objections specified by the health officer as his reasons for denial.

(Ord. 11778 § 2 (Art. 7 § 704), 1978; Ord. 11773 § 2 (Art. 7 § 704), 1978.)

12.08.620 - Application—Denial conditions.

The applicant may at his option deem the variance denied if the health officer fails to act on the application within 30 days after filing or within 10 days after applicant furnishes the further information requested by the health officer, whichever is later.

(Ord. 11778 § 2 (Art. 7 § 705), 1978; Ord. 11773 § 2 (Art. 7 § 705), 1978.)

12.08.630 - Public hearing—For reconsideration of health officer decision.

Within 10 days after notice by the health officer of the decision on application for variance, any interested party may petition the health officer in writing for a public hearing to reconsider the decision. The health officer shall thereupon appoint a hearing officer to conduct said hearing.

(Ord. 11778 § 2 (Art. 7 § 706), 1978; Ord. 11773 § 2 (Art. 7 § 706), 1978.)

12.08.640 - Public hearing—Decision and findings—Appeals.

- A. Based upon the evidence presented at the public hearing, the hearing officer may affirm, modify or reverse the previous determination subject to such terms, conditions and requirements as he may deem necessary. The hearing officer shall be guided by the same considerations as set forth in Section 12.08.580.
- B. A decision by the hearing officer to grant a variance may be made only if the hearing officer makes the findings that:
 - 1. Additional time is necessary for the applicant to alter or modify his activity, operation or noise source to comply with this chapter; or
 - 2. The activity, operation or noise source cannot feasibly be done in a manner that would comply with the provisions of this chapter, and no other reasonable alternative is available to the applicant.
- C. The decision of the hearing officer shall be by written order, and shall be final. Appeals from an adverse decision shall be made to a court of competent jurisdiction.

(Ord. 11778 § 2 (Art. 7 § 707), 1978: Ord. 11773 § 2 (Art. 7 § 707), 1978.)

Part 7 - VIOLATIONS AND ENFORCEMENT

12.08.650 - Enforcement—Health officer powers and duties.

The health officer shall have primary responsibility for the enforcement of the noise regulations contained in this chapter. The health officer shall make all noise-level measurements required for the enforcement of this chapter. Nothing in this chapter shall prevent the health officer from efforts to obtain voluntary compliance by way of warning, notice, or educational means.

(Ord. 11778 § 2 (Art. 8 § 801), 1978: Ord. 11773 § 2 (Art. 8 § 801), 1978.)

12.08.660 - Initial violations.

In the event of an initial violation of the provisions of this chapter a written notice of violation shall be given the alleged violator, specifying the time by which the condition shall be corrected or an application for permit or variance shall be received by the health officer. The health officer shall take no further action in the event the cause of the violation has been removed, the condition abated or fully corrected within the time period specified in the written notice.

(Ord. 11778 § 2 (Art. 8 § 802), 1978: Ord. 11773 § 2 (Art. 8 § 802), 1978.)

12.08.670 - Violation—Penalty.

Any person violating any of the provisions of this chapter shall be deemed guilty of a misdemeanor and, upon conviction thereof, shall be punished by a fine of not more than \$500.00 or be imprisoned in the County Jail for a period not exceeding six months or by both such fine and imprisonment. Each day such violation is committed or permitted to continue shall constitute a separate offense and shall be punishable as such.

(Ord. 11778 § 2 (Art. 8 § 803), 1978: Ord. 11773 § 2 (Art. 8 § 803), 1978.)

12.08.680 - Severability.

If any provision, clause, sentence or paragraph of this chapter or the application thereof to any person or circumstances shall be held invalid, such invalidity shall not affect the other provisions or application of the provisions of this chapter which can be given effect without the invalid provisions or application and, to this end, the provisions of this chapter are hereby declared to be severable.

(Ord. 11778 § 2 (Art. 8 § 804), 1978: Ord. 11773 § 2 (Art. 8 § 804), 1978.)

Chapter 12.12 - BUILDING CONSTRUCTION NOISE

12.12.010 - Definitions.

- A. "Board" means the board of supervisors of the county of Los Angeles.
- B. "Person" means an individual, partnership, firm or corporation.
- C. "Section" means a section of the ordinance codified in this chapter.

(Ord. 8594 §§ 1, 2 and 3, 1964.)

12.12.020 - References to provisions.

Whenever any reference is made to the ordinance codified in this chapter or any other ordinance, or to any statute, such reference shall apply to all amendments and additions thereto now or hereafter made.

(Ord. 8594 § 4, 1964.)

12.12.030 - Construction noise prohibited when.

Except as otherwise provided in this chapter, a person, on any Sunday, or at any other time between the hours of 8:00 p.m. and 6:30 a.m. the following day, shall not perform any construction or repair work of any kind upon any building or structure, or perform any earth excavating, filling or moving, where any of the foregoing entails the use of any air compressors; jackhammers; power-driven drill; riveting machine; excavator, diesel-powered truck, tractor or other earth moving equipment; hand hammers on steel or iron, or any other machine, tool, device or equipment which makes loud noises to the disturbance of persons occupying sleeping quarters in a dwelling, apartment, hotel, mobilehome, or other place of residence.

(Ord. 9818 § 1, 1969: Ord. 8594 § 6, 1964.)

12.12.040 - Exemptions—Certain zoned areas.

The provisions of this chapter do not apply in any territory which is in a zone in which the Zoning Ordinance, codified in Title 22 of this code, prohibits any residential use and which is not less than 500 feet from any territory in any residential zone as defined in Section 201 of Ordinance 1494, or any territory in a residential zone in any city.

(Ord. 8594 § 11, 1964.)

12.12.050 - Exemptions—Work performed with county engineer's permission.

The provisions of Section 12.12.030 do not apply to any person who performs the construction, repair, excavation or earthmoving work involved pursuant to the express written permission of the county engineer to perform such work at times prohibited in Section 12.12.030. Upon receipt of an application in writing therefor, stating the reasons for the request and the

facts upon which such reasons are based, the county engineer may grant such permission if he finds that:

- A. The work proposed to be done is effected with a public interest; or
- B. Hardship or injustice, or unreasonable delay, would result from the interruption thereof during the hours and days specified in Section 12.12.030; or
- C. The building or structure involved is devoted or intended to be devoted to a use immediately incident to public defense.

(Ord. 9818 § 2, 1969; Ord. 8594 § 7, 1964.)

12.12.060 - Exemptions—Work by public utilities—Conditions.

The provisions of Section 12.12.030 do not apply to the construction, repair or excavation by a public utility which is subject to the jurisdiction of the Public Utilities Commission as may be necessary for the preservation of life or property, and where such necessity makes it necessary to construct, repair or excavate during the prohibited hours.

(Ord. 8594 § 10, 1964.)

12.12.070 - Exemptions—Emergency work—Permit requirements.

The provisions of Section 12.12.030 do not apply to such construction, repair or excavation during prohibited hours as may be necessary for the preservation of life or property when such necessity arises during such hours as the offices of the county are closed or where such necessity requires immediate action prior to the time at which it would be possible to obtain a permit pursuant to Section 12.12.050, if the person doing such construction, repair or excavation obtains a permit therefor within one day after the offices of the county engineer are first opened subsequent to the making of such construction, repair or excavation.

(Ord. 8594 § 9, 1964.)

12.12.080 - Appeals from county engineer's decision.

Any person dissatisfied with the decision of the county engineer may appeal to the business license commission as provided in Ordinance 5860, on business licenses, set out at Title 7 of this code, including the appointment of and reference to a referee, as in the case of a notification by the tax collector that he intends to deny a license.

(Ord. 9849 § 1, 1969; Ord. 8594 § 8, 1964.)

12.12.090 - Violation—Penalty.

Any person violating any provision of this chapter is guilty of a misdemeanor punishable by a fine of not more than \$500.00 or by imprisonment in the County Jail for not more than six months, or by both such fine and imprisonment. Every such person is guilty of a separate offense for every day during any portion of which any violation or any of the provisions of this chapter is committed, continued or permitted by such person, and shall be punished as provided by this chapter.

(Ord. 8594 § 12, 1964.)

12.12.100 - Severability.

If any provision of the ordinance codified in this chapter or the application thereof to any person or circumstance is held invalid, the remainder of the ordinance, and the application of such provision to other persons or circumstances, shall not be affected thereby.

(Ord. 8594 § 5, 1964.)



Noise Element

of the General Plan

City of Glendale Planning Department
Mestre Greve Associates
May 2007

2030 Noise Contours

City of Glendale

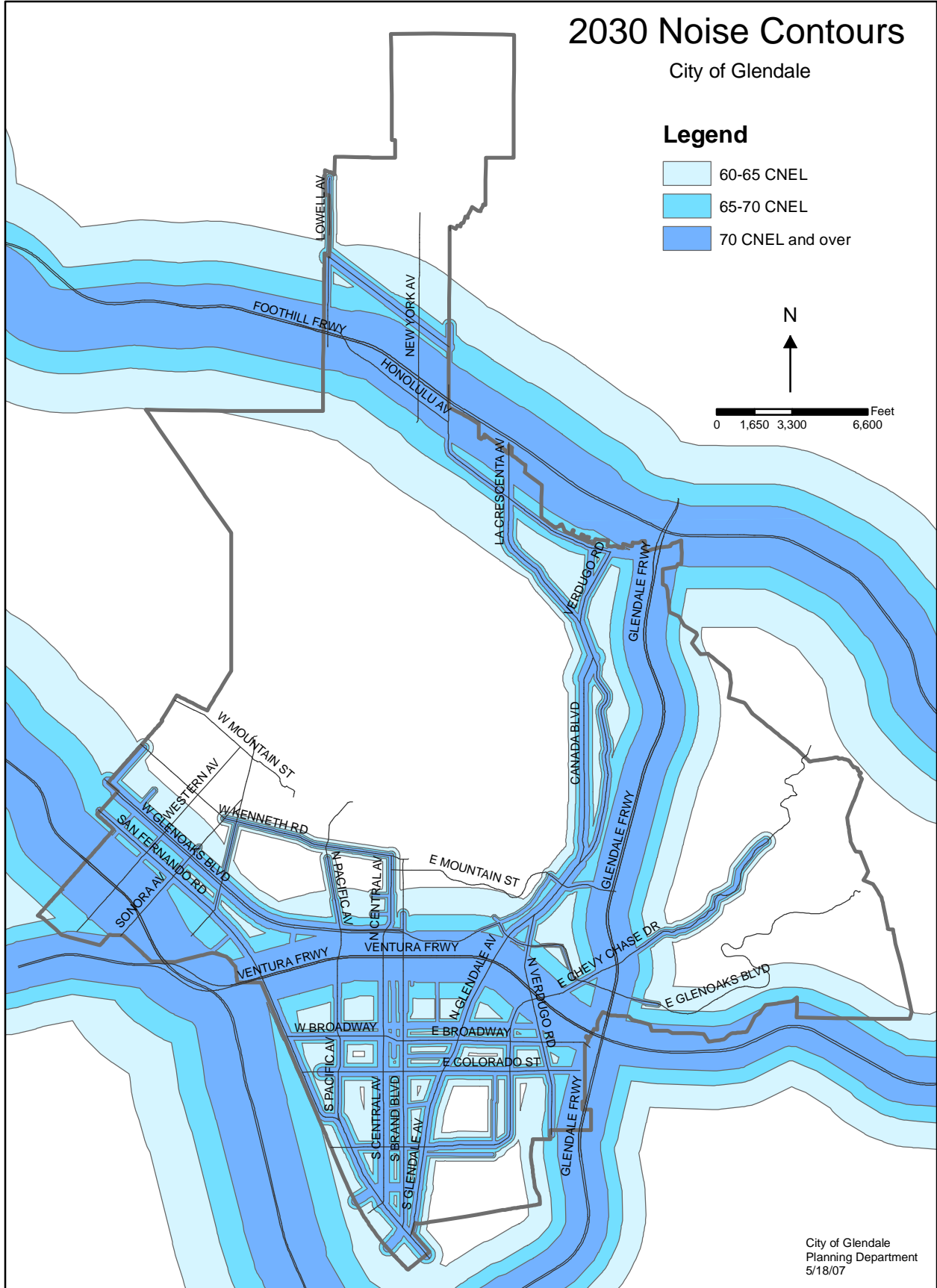
Legend

- 60-65 CNEL
- 65-70 CNEL
- 70 CNEL and over

N

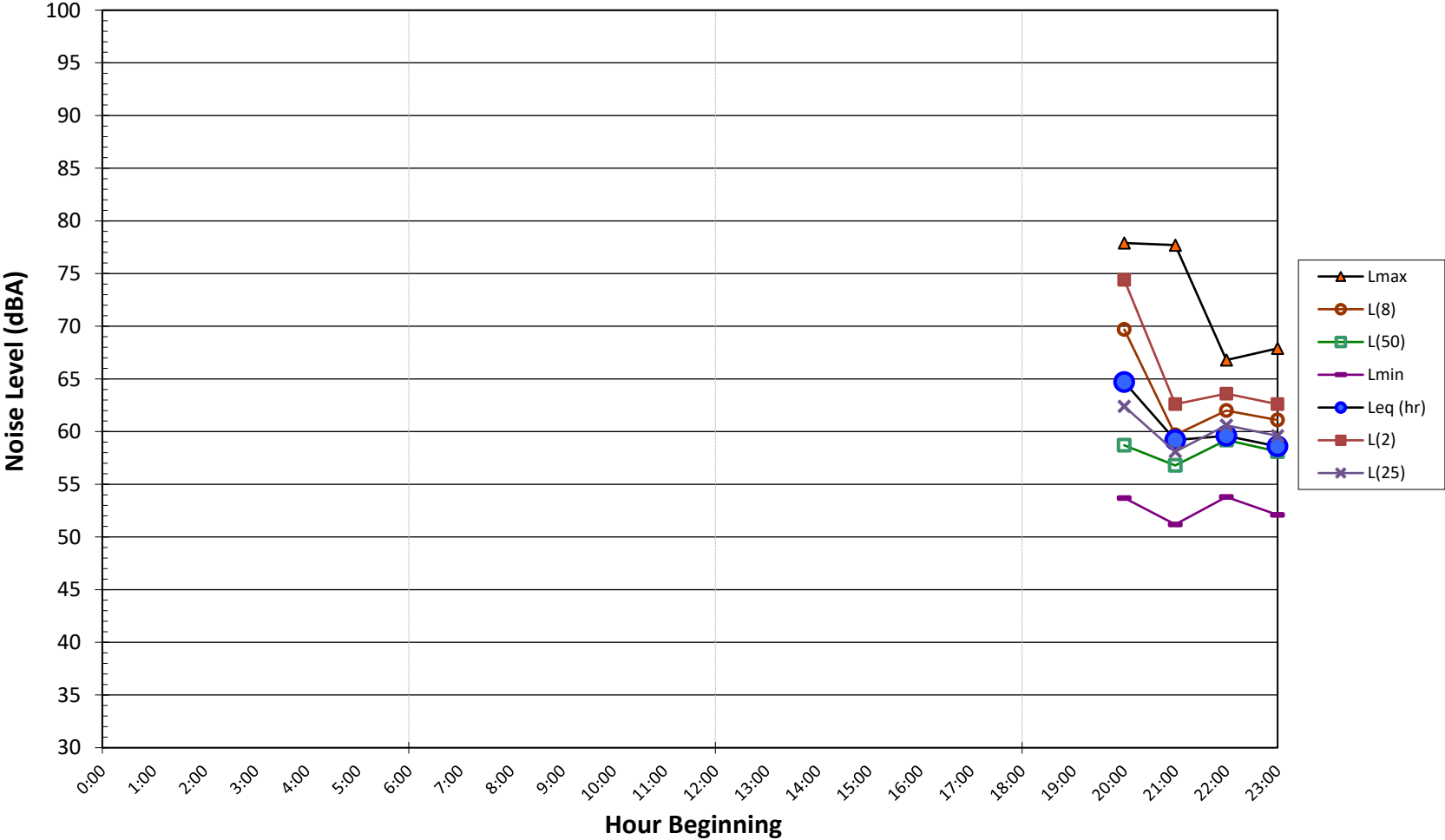


0 1,650 3,300 6,600 Feet

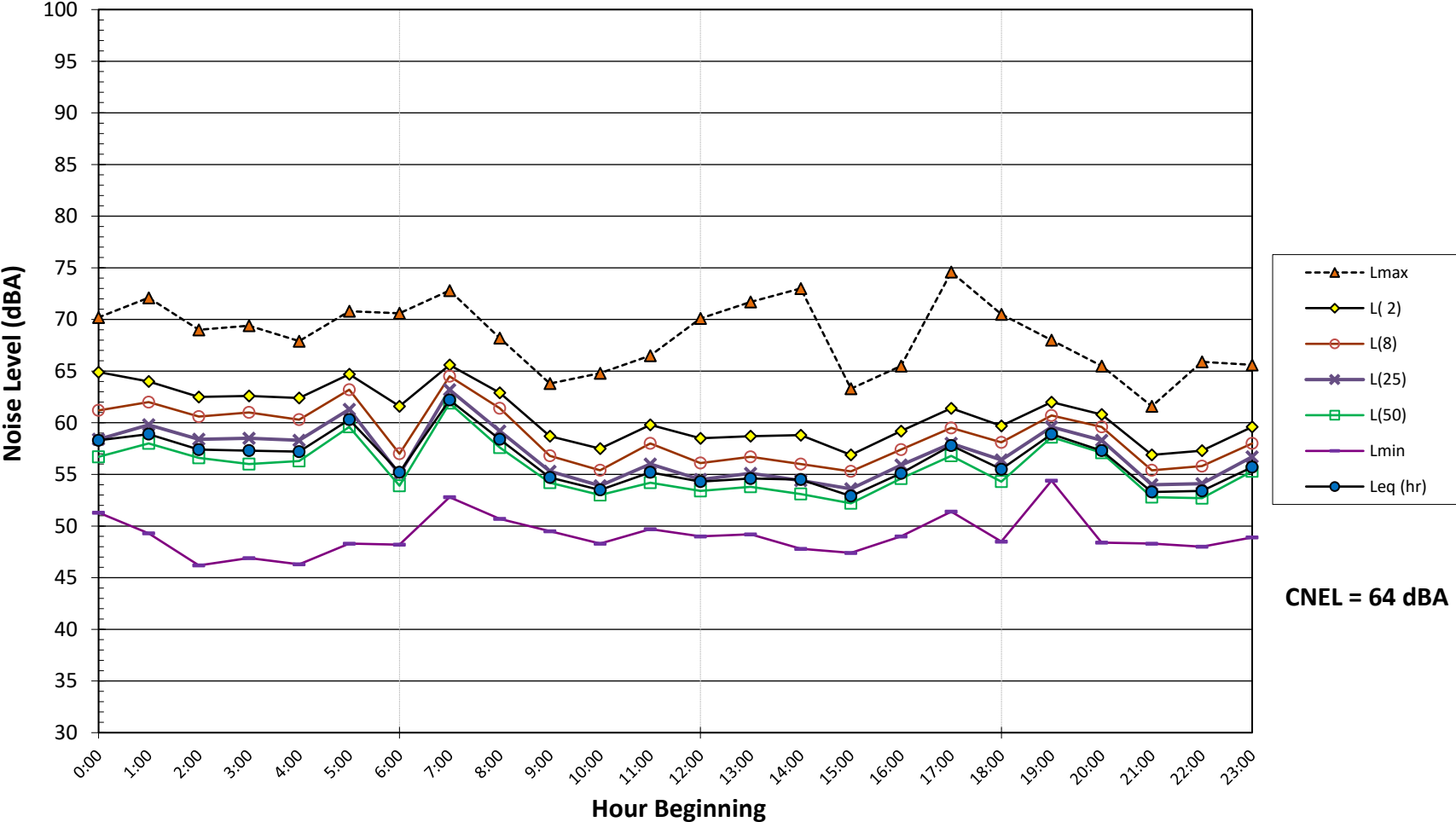


AMBIENT NOISE MONITORING RESULTS

Noise Levels at LT-1
2860 Altura Ave, Near East Field Goal
Friday, October 19, 2018

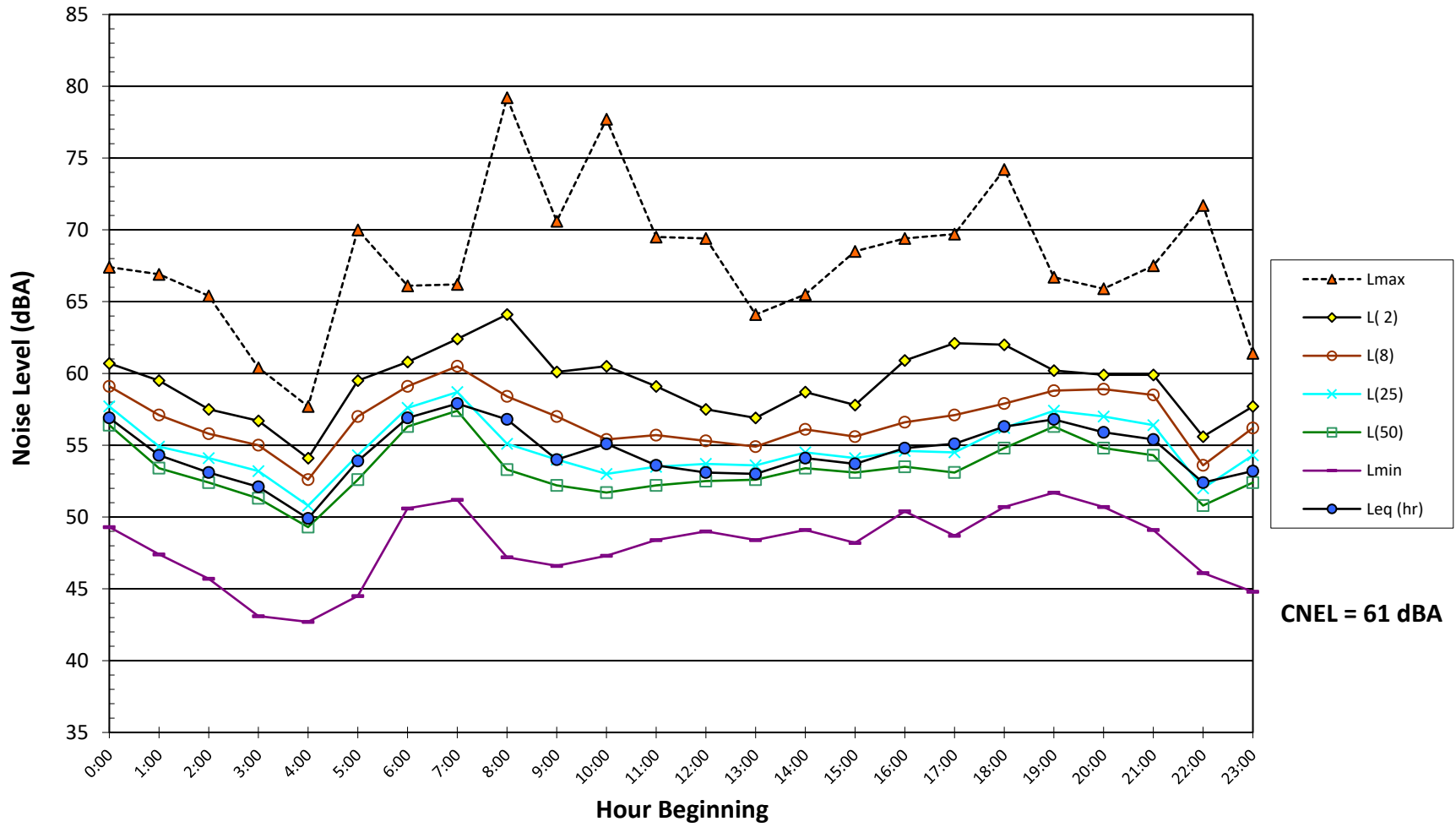


**Noise Levels at Noise Measurement Site LT-1
2860 Altura Ave, Near East Field Goal
Saturday, October 20, 2018**

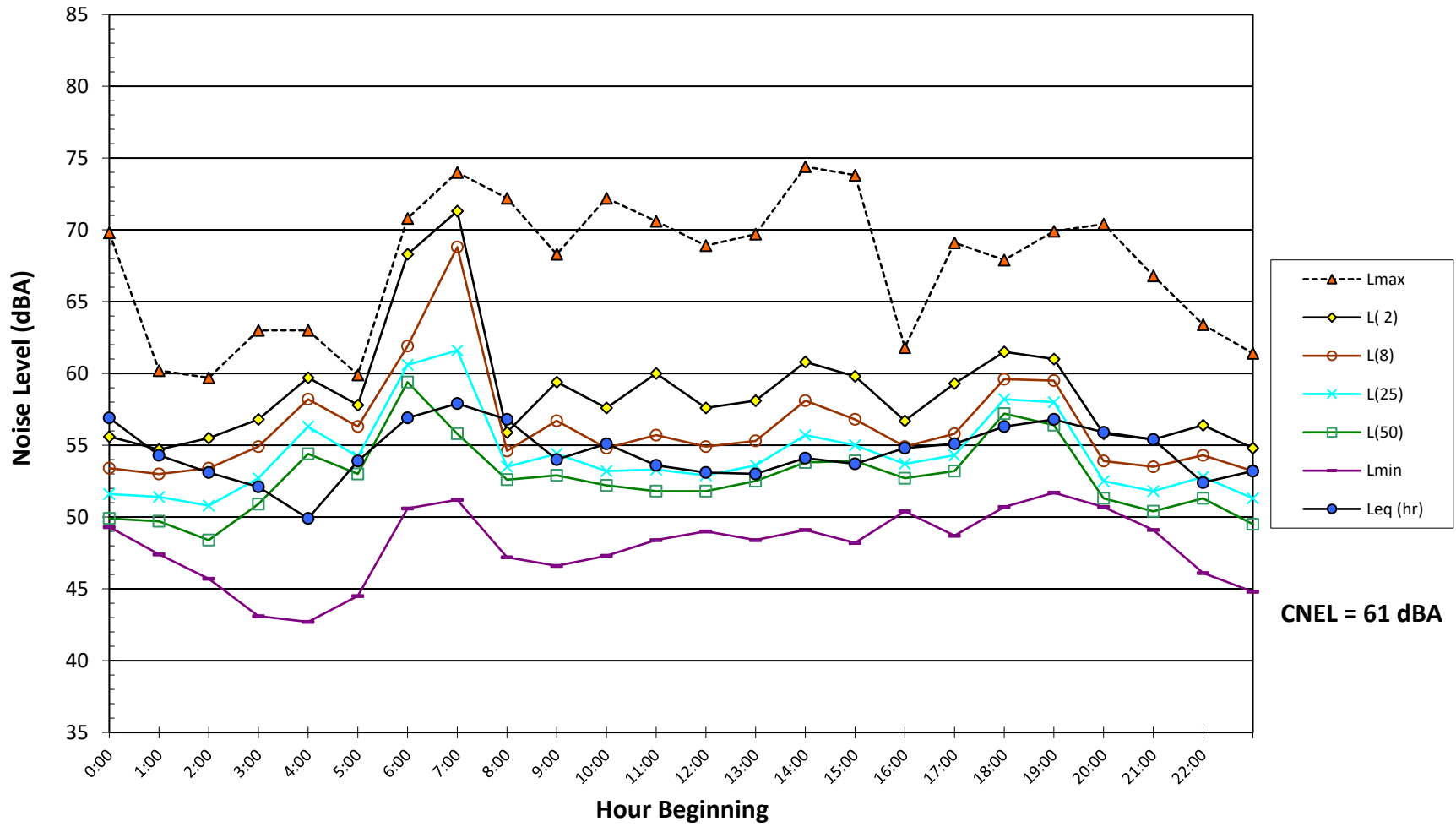


CNEL = 64 dBA

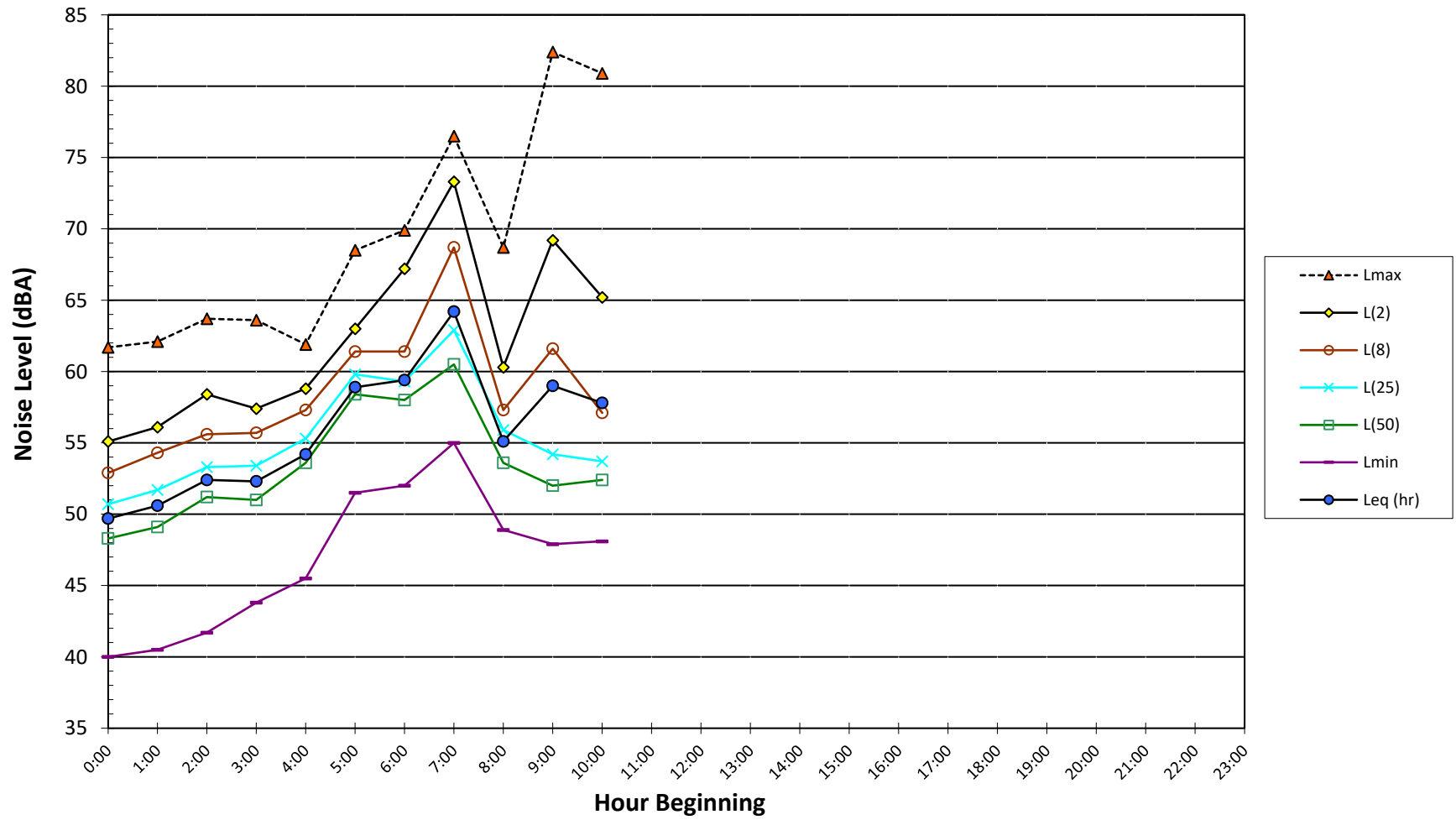
**Noise Levels at Noise Measurement Site LT-1
2860 Altura Ave, Near East Field Goal
Sunday, October 21, 2018**



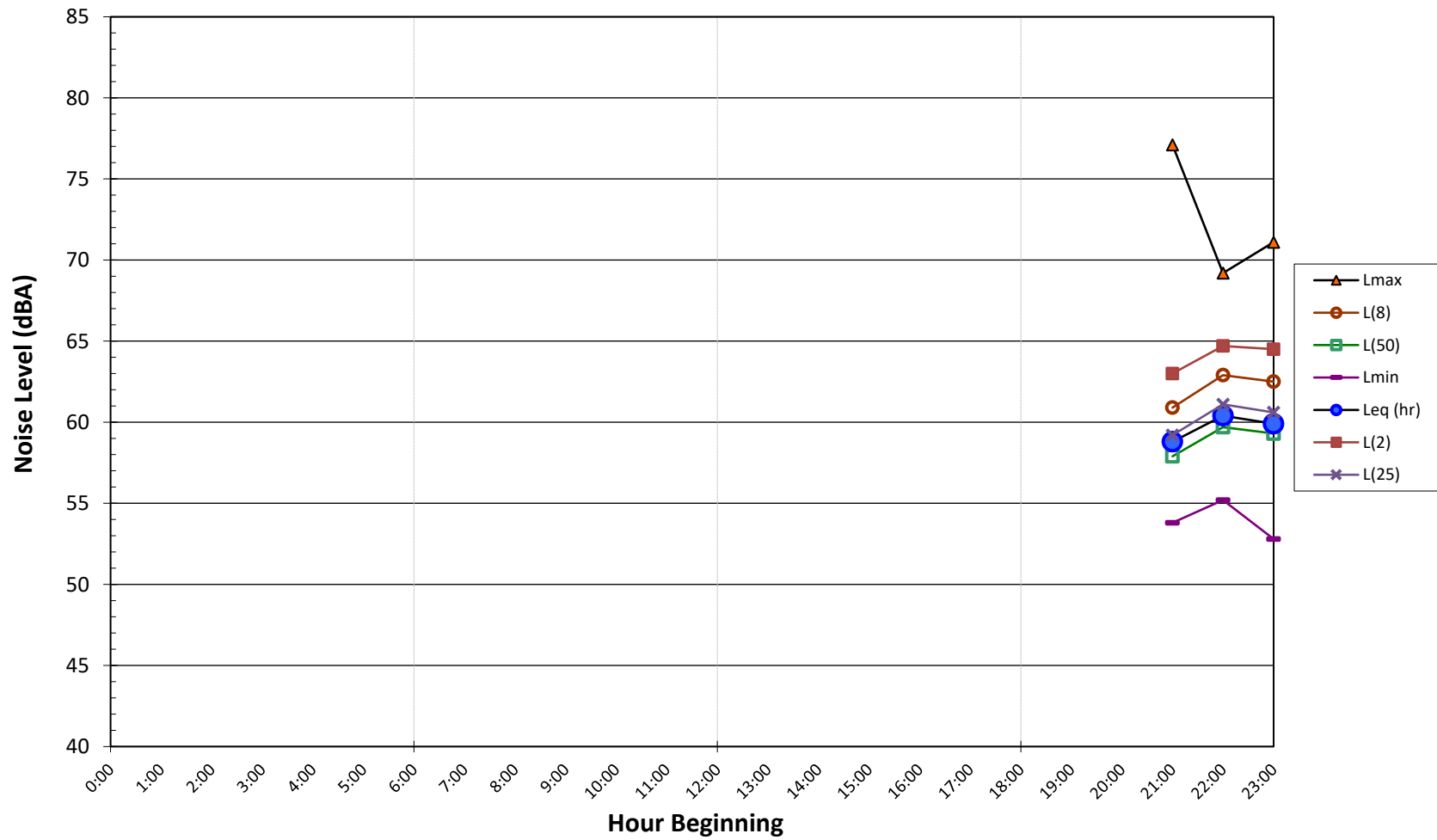
**Noise Levels at Noise Measurement Site LT-1
2860 Altura Ave, Near East Field Goal
Monday, October 22, 2018**



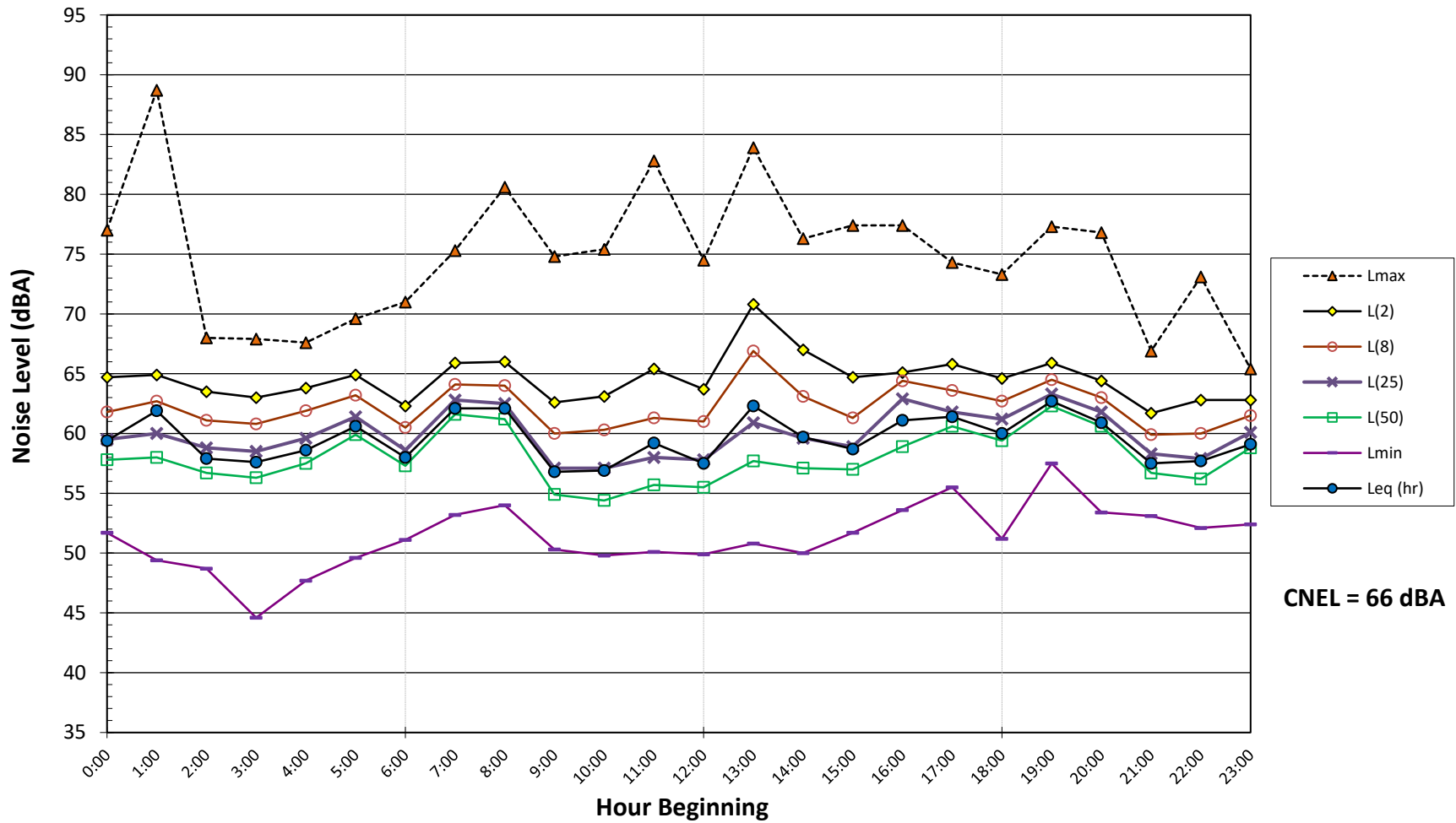
**Noise Levels at LT-1
2860 Altura Ave, Near East Field Goal
Tuesday, October 23, 2018**



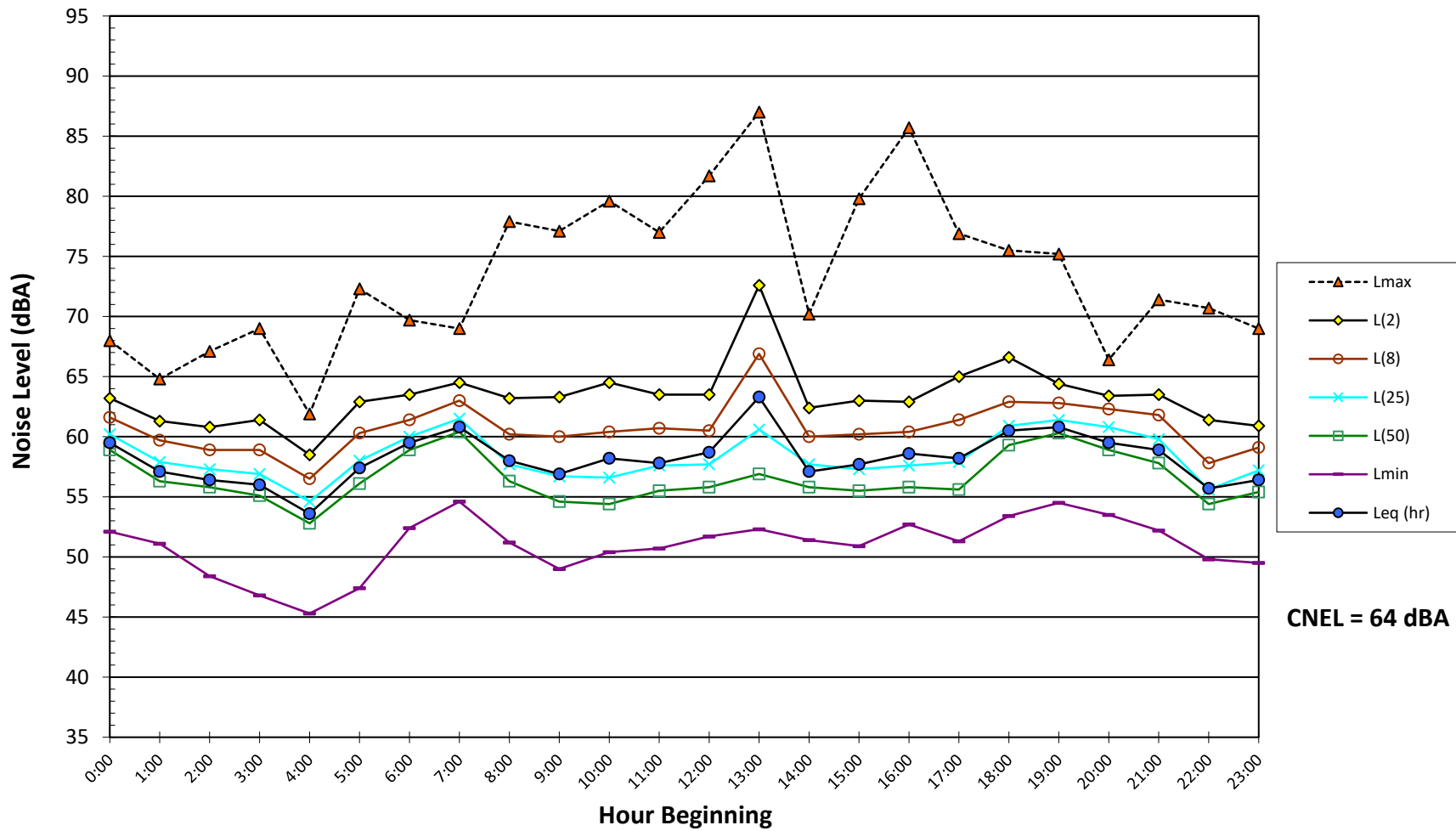
**Noise Levels at LT-2
3005 Altura Ave Near Ramsdell Ave
Friday, October 19, 2018**



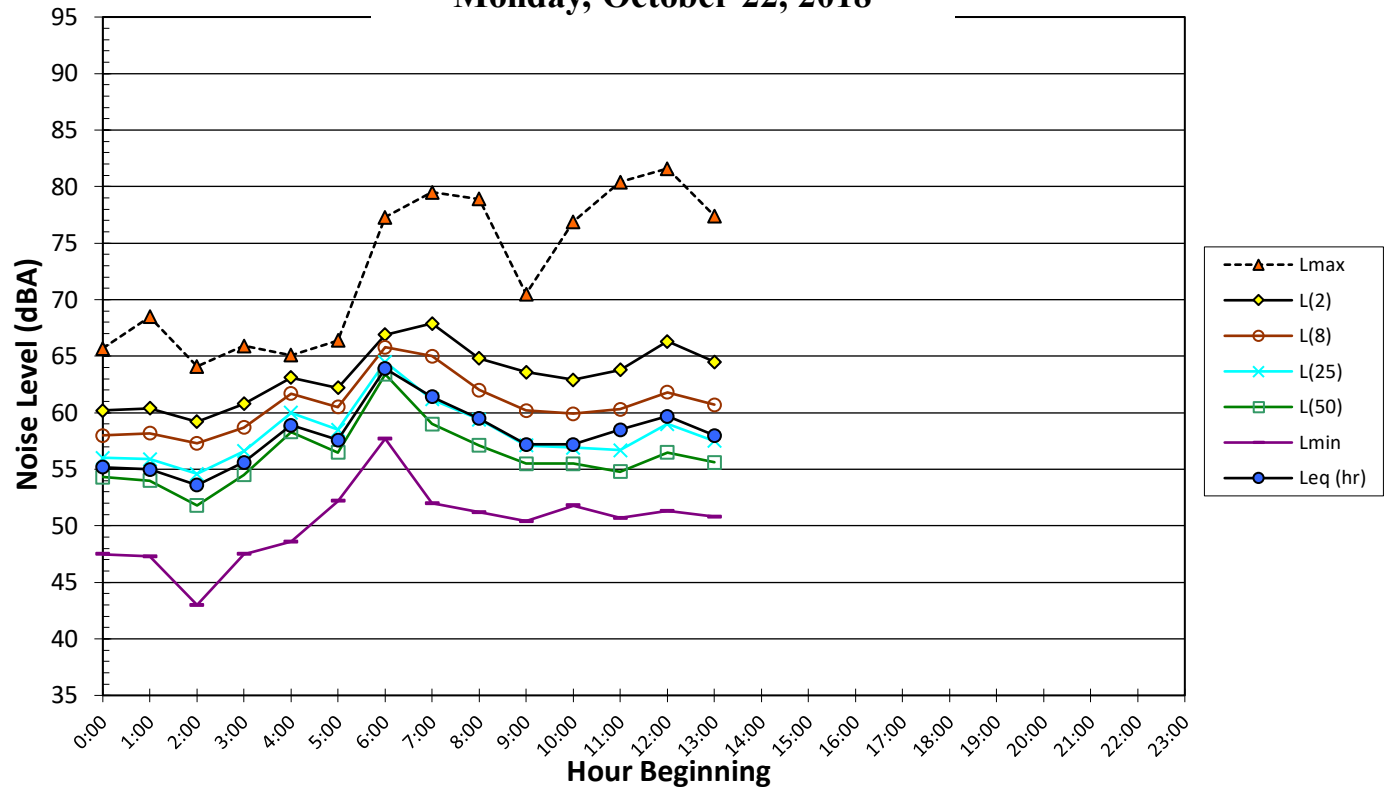
**Noise Levels at LT-2
3005 Altura Ave Near Ramsdell Ave
Saturday, October 20, 2018**



Noise Levels at LT-2
3005 Altura Ave Near Ramsdell Ave
Sunday, October 21, 2018



**Noise Levels at LT-2
3005 Altura Ave Near Ramsdell Ave
Monday, October 22, 2018**



CONSTRUCTION NOISE MODELING

Attenuation Calculation				
Phase	RCNM Reference		On-Campus Receptors	
	dBA Leq	distance (ft)	dBA Leq	distance (ft)
Grading & Utility Trenching	85	50	67	380
Utility Trenching	77		59	
Building Construction	82.8		65	
Architectural Coating	74		56	
Finish/Landscaping	77		59	

Building English 5000's Source: Crescenta Valley High School website. <https://www.gusd.net/Page/11447>

Phase	RCNM Reference		Off-Campus Receptors east to bleachers	
	dBA Leq	distance (ft)	dBA Leq	distance (ft)
Grading & Utility Trenching	85	50	73	200
Utility Trenching	77		65	
Building Construction	83		71	
Architectural Coating	74		62	
Finish/Landscaping	77		65	

Distance from bleachers to residences to east

Phase	RCNM Reference		On-Campus Receptors east & west to Team	
	dBA Leq	distance (ft)	dBA Leq	distance (ft)
Grading & Utility Trenching	85	50	75	150
Utility Trenching	77		67	
Building Construction	83		73	
Architectural Coating	74		64	
Finish/Landscaping	77		67	

Equipment	RCNM Reference		Off-Campus Receptors north	
	dBA Lmax	distance (ft)	dBA Lmax	distance (ft)
Grading & Utility Trenching	85	50	65	500
Utility Trenching	77		57	
Building Construction	83		63	
Architectural Coating	74		54	
Finish/Landscaping	77		57	

Equipment	RCNM Reference		Off-Campus Receptors south	
	dBA Lmax	distance (ft)	dBA Lmax	distance (ft)
Grading & Utility Trenching	85	50	65	350
Utility Trenching	77		57	
Building Construction	83		63	
Architectural Coating	74		54	
Finish/Landscaping	77		57	

Attenuation calculated through Inverse Square Law: $L_p(R2) = L_p(R1) - 20\log(R2/R1)$

TRAFFIC NOISE INCREASE CALCULATIONS

Segment	PM Peak Hour Volumes				dBA	
	Existing No Project	Existing Plus Project	Future No Proejct	Future Plus Proejct	Project Noise Increase	Cumulative Increase
Ramsdell Avenue - north of Foothill Boulevard	486	566	497	576	0.7	0.7
Ramsdell Avenue - south of Foothill Boulevard	407	606	419	617	1.7	1.8
Foothill Boulevard - Ramsdell Avenue to Glenwood Avenue	2285	2317	2347	2379	0.1	0.2
Foothill Boulevard - west of Ramsdell Avenue	2286	2427	2351	2492	0.3	0.4
Glenwood Avenue - north of Foothill Boulevard	80	145	85	150	2.6	2.7
Glenwood Avenue - south of Foothill Boulevard	63	122	63	122	2.9	2.9
Foothill Boulevard - Glenwood Avenue to La Crescenta Avenue	2346	2426	2406	2485	0.1	0.2
Foothill Boulevard - Glenwood Avenue to Ramsdell	2327	2359	2388	2419	0.1	0.2
La Crescenta Ave - north of Foothill Boulevard	536	598	558	619	0.5	0.6
La Crescenta Ave - south of Foothill Boulevard	1175	1321	1212	1358	0.5	0.6
Foothill Boulevard - east of La Crescenta Boulevard	2092	2147	2144	2199	0.1	0.2
Foothill Boulevard - La Crescenta Avenue to Glenwood Avenue.	2333	2412	2392	2472	0.1	0.3
Ramsdell Ave - north of Community Avenue	368	566	379	576	1.9	1.9
Ramsdell Avenue - south of Community Avenue	448	674	462	687	1.8	1.9
Community Avenue - east of Ramsdell Avenue	189	271	192	274	1.6	1.6
Community Avenue - west of Ramsdell Avenue	75	75	75	75	0.0	0.0
La Crescenta Avenue - north of Prospect Avenue	1326	1368	1367	1408	0.1	0.3
La Crescenta Avenue - Prospect Avenue to Altura Avenue	1445	1501	1489	1544	0.2	0.3
Prospect Avenue - east of La Crescenta Avenue	70	70	78	78	0.0	0.5
Prospect Avenue - west of La Crescenta Avenue	117	191	118	192	2.1	2.2
La Crescenta Avenue - north of Altura Avenue	1428	1485	1471	1528	0.2	0.3
La Crescenta Avenue - south of Altura Avenue	1439	1530	1482	1573	0.3	0.4
Altura Avenue - east of La Crescenta Avenue	41	41	41	41	0.0	0.0

Existing No Project																	
Intersection		PM Peak															
Main Street	Cross Street	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	North	South	East	West
	Ramsdell Avenue & Foothill Boulevard	117	66	49	108	45	71	80	686	68	62	1264	116	486	407	2285	2286
	Glenwood Avenue & Foothill Boulevard	6	0	20	8	0	15	22	827	19	18	1438	35	80	63	2346	2327
	La Crescenta Avenue & Foothill Boulevard	327	193	152	55	164	42	32	569	218	121	1145	50	536	1175	2092	2333
	Ramsdell Avenue & Community Avenue	7	143	46	19	173	10	3	21	15	64	19	20	368	448	189	75
	La Crescenta Avenue & Prospect Avenue	60	792	31	5	516	4	3	7	34	12	9	6	1326	1445	70	117
	La Crescenta Avenue & Altura Avenue	8	852	18	7	548	7	7	0	4	9	0	7	1428	1439	41	26

Existing Plus Project																	
Intersection		PM Peak															
Main Street	Cross Street	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	North	South	East	West
	Ramsdell Avenue & Foothill Boulevard	117	66	49	108	125	71	80	713	182	67	1264	116	566	606	2317	2427
	Glenwood Avenue & Foothill Boulevard	6	0	20	37	36	15	22	852	21	39	1443	35	145	122	2426	2359
	La Crescenta Avenue & Foothill Boulevard	327	193	152	55	226	42	32	569	272	151	1170	50	598	1321	2147	2412
	Ramsdell Avenue & Community Avenue	7	143	101	46	344	10	3	21	15	64	19	20	566	674	271	75
	La Crescenta Avenue & Prospect Avenue	104	800	31	5	520	19	18	7	34	12	9	6	1368	1501	70	191
	La Crescenta Avenue & Altura Avenue	50	901	18	7	548	11	11	0	4	9	0	7	1485	1530	41	76

Future No Project																	
Intersection		PM Peak															
Main Street	Cross Street	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	North	South	East	West
	Ramsdell Avenue & Foothill Boulevard	121	68	49	110	47	72	81	720	71	63	1286	119	497	419	2347	2351
	Glenwood Avenue & Foothill Boulevard	6	0	20	9	0	16	24	861	19	18	1462	36	85	63	2406	2388
	La Crescenta Avenue & Foothill Boulevard	334	200	156	57	170	43	35	591	227	125	1162	53	558	1212	2144	2392
	Ramsdell Avenue & Community Avenue	7	148	47	19	179	10	3	21	15	66	19	20	379	462	192	75
	La Crescenta Avenue & Prospect Avenue	61	811	34	7	535	4	3	7	34	14	9	7	1367	1489	78	118
	La Crescenta Avenue & Altura Avenue	8	875	18	7	568	7	7	0	4	9	0	7	1471	1482	41	26

Future Plus Project																	
Intersection		PM Peak															
Main Street	Cross Street	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	North	South	East	West
	Ramsdell Avenue & Foothill Boulevard	121	68	49	110	126	72	81	747	185	68	1286	119	576	617	2379	2492
	Glenwood Avenue & Foothill Boulevard	6	0	20	38	36	16	24	886	21	39	1466	36	150	122	2485	2419
	La Crescenta Avenue & Foothill Boulevard	334	200	156	57	231	43	35	591	282	155	1187	53	619	1358	2199	2472
	Ramsdell Avenue & Community Avenue	7	148	102	46	349	10	3	21	15	66	19	20	576	687	274	75
	La Crescenta Avenue & Prospect Avenue	105	819	34	7	538	19	18	7	34	14	9	7	1408	1544	78	192
	La Crescenta Avenue & Altura Avenue	50	924	18	7	568	11	11	0	4	9	0	7	1528	1573	41	76

SOUNDPLAN MODELING OUTPUTS

Receiver	Usage	Fl	Dir	dB(A)	Lr,lim	dB(1/3) Lr,lim	dB(1/3) Ldn	dB(A)	Leq,d	dB(1/3) Leq,n	dB(1/3) Ldn,diff	dE Leq,d,diff	1/3 Leq,n,diff	dB
R1	SCR	G						91.9	85.5	85.5				
R2	SCR	G						98.6	92.2	92.2				
R3	SCR	G						95.1	88.7	88.7				
R4	SCR	G						95.4	89	89				
R5	SCR	G						94.7	88.3	88.3				
R6	SCR	G						85.4	79	79				
R7	SCR	G						85.7	79.2	79.2				
R8	SCR	G						85.5	79.1	79.1				
R9	SCR	G						85.3	78.9	78.9				
R10	SCR	G						84.9	78.5	78.5				
R11	SCR	G						84.7	78.3	78.3				
R12	SCR	G						85.6	79.2	79.2				
R13	SCR	G						86.5	80.1	80.1				
R14	SCR	G						87.9	81.5	81.5				
R15	SCR	G						88.2	81.8	81.8				
R16	SCR	G						88.3	81.9	81.9				
R17	SCR	G						88.5	82.1	82.1				
R18	SCR	G						85.9	79.4	79.4				
R19	SCR	G						85.7	79.3	79.3				
R20	SCR	G						85.2	78.8	78.8				
R21	SCR	G						84.7	78.2	78.2				
R22	SCR	G						84.1	77.7	77.7				