

Samuel M. Gantner Elementary School

Noise and Vibration Impact Study

City of Lodi, CA

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TABLE OF CONTENTS

1.0	Introduction	1
1.1	Purpose of Analysis and Study Objectives	1
1.2	Site Location and Study Area	1
1.3	Proposed Project Description	1
2.0	Fundamentals of Noise	4
2.1	Sound, Noise and Acoustics	4
2.2	Frequency and Hertz	4
2.3	Sound Pressure Levels and Decibels	4
2.4	Addition of Decibels	4
2.5	Sensitive Receptors	5
2.6	Human Response to Changes in Noise Levels	5
2.7	Noise Descriptors	5
2.8	Traffic Noise Prediction	7
2.9	Sound Propagation	7
3.0	Ground-Bourne Vibration Fundamentals	8
3.1	Vibration Descriptors	8
3.2	Vibration Perception	8
4.0	Regulatory Setting.....	9
4.1	Federal Regulations	9
4.2	State Regulations	9
4.3	City of Lodi Noise Regulations	10
5.0	Study Method and Procedure.....	14
5.1	Noise Measurement Procedure and Criteria	14
5.2	Noise Measurement Locations	14
5.3	SoundPLAN Noise Model (Operational Noise)	14
5.4	Construction Noise Modeling	15
6.0	Existing Noise Environment	17
7.0	Future Noise Environment Impacts and Mitigation	20
7.1	Future Off-Site Exterior Noise	20
7.1.1	Off-Site Traffic Noise Impact	20
7.1.2	Noise Impacts to Off-Site Receptors Due to Stationary Noise Sources	20
7.2	Noise Impacts to On-Site Receptors Due to Traffic	21
8.0	Construction Noise and Vibration Impacts.....	23
8.1	Construction Noise	23
8.2	Construction Vibration	25
9.0	References	27

LIST OF APPENDICES

Appendix A:	Field Measurement Data
Appendix B:	SoundPLAN Noise Modeling Data
Appendix C:	Construction Noise Modeling Output
Appendix D:	Construction Vibration Modeling Output

LIST OF EXHIBITS

Exhibit A:	Location Map	2
Exhibit B:	Site Plan.....	3
Exhibit C:	Typical A-Weighted Noise Levels	4
Exhibit D:	Land Use Compatibility Guidelines	10
Exhibit E:	Measurement Locations	19
Exhibit F:	Project Operational Noise Levels - CNEL	22

LIST OF TABLES

Table 1:	Decibel Changes and Loudness	5
Table 2:	SoundPLAN Modeling Assumptions.....	15
Table 3:	Long-Term Noise Measurement Data (NM1) ¹	17
Table 4:	Long-Term Noise Measurement Data (NM2) ¹	18
Table 5:	Operational Noise Levels (dBA CNEL)	21
Table 6:	Typical Construction Equipment Noise Levels ¹	23
Table 7:	Construction Noise Level by Phase (dBA, Leq).....	24
Table 8:	Guideline Vibration Damage Potential Threshold Criteria	25
Table 9:	Vibration Source Levels for Construction Equipment.....	26

1.0 Introduction

1.1 Purpose of Analysis and Study Objectives

This noise assessment was prepared to evaluate the potential noise impacts for the project study area and to recommend noise mitigation measures, if necessary, to minimize the potential noise impacts. The assessment was conducted and compared to the noise standards set-forth by the Federal, State and Local agencies. Consistent with the City's Noise Guidelines, the project must demonstrate compliance to the applicable noise criterion as outlined within the City of Lodi Noise Element and Municipal Code.

The following is provided in this report:

- A description of the study area and the proposed project;
- Information regarding the fundamentals of noise;
- A description of the local noise guidelines and standards;
- An analysis of traffic noise impacts to the sensitive receptors and the project site; and
- An analysis of construction noise impacts.

1.2 Site Location and Study Area

The proposed Samuel M. Gantner Elementary School (Project) site is located at 2801 West Vine Street in the City of Lodi, CA, as shown in Exhibit A. The City of Lodi General Plan Land Use Map (2025) designates the proposed Project site and surrounding uses as Planned Development. Land uses surrounding the Project site include Grace Point Church campus and John Elliot Christian High School campus to the east, residential and future residential to the west, future residential to the north, and undeveloped land to the south. Vine Street is to the south of the Project site and Westgate Drive is to the west.

1.3 Proposed Project Description

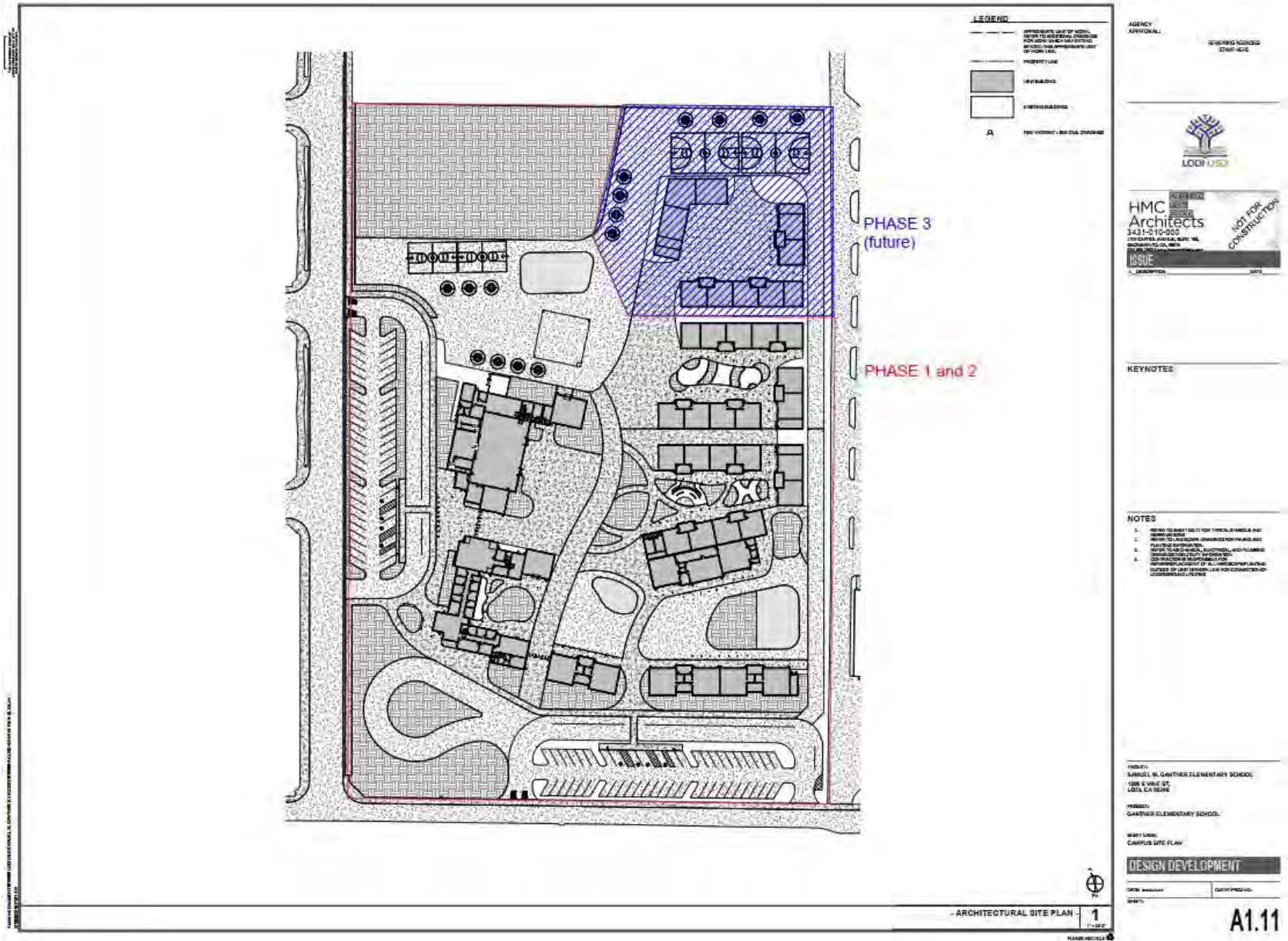
The proposed Project consists of the construction and operation of a new kindergarten through 6th grade elementary school, with the potential to expand to serving up to 8th grade. The proposed school is anticipated to be constructed in three phases, with the first two phases constructed concurrently, and the third phase constructed in the future when the school expands to approximately 850 students. Phase I construction is anticipated to include seven buildings housing a library, administrative support offices, a multi-purpose room, kitchen, a music room, approximately 19 classrooms, and an outdoor area including basketball courts and a lunch area. Phase 2 is anticipated to provide three buildings with approximately 10 classrooms, and Phase 3 anticipated with approximately 10 classrooms. Restrooms would also be included with separate facilities for staff and students.

The Project proposes to construct a total of 13 buildings (approximately 71,000 square feet total) and 98 parking spaces on approximately 12 acres. Operational hours will generally be from 6:30 AM to 4:00 PM from August to June. The site plan is shown in Exhibit B.

Exhibit A Location Map



Exhibit B
 Site Plan



2.0 Fundamentals of Noise

This section of the report provides basic information about noise and presents some of the terms used within the report.

2.1 Sound, Noise and Acoustics

Sound is a disturbance created by a moving or vibrating source and is capable of being detected by the hearing organs. Sound may be thought of as mechanical energy of a moving object transmitted by pressure waves through a medium to a human ear. For traffic, or stationary noise, the medium of concern is air. *Noise* is defined as sound that is loud, unpleasant, unexpected, or unwanted.

2.2 Frequency and Hertz

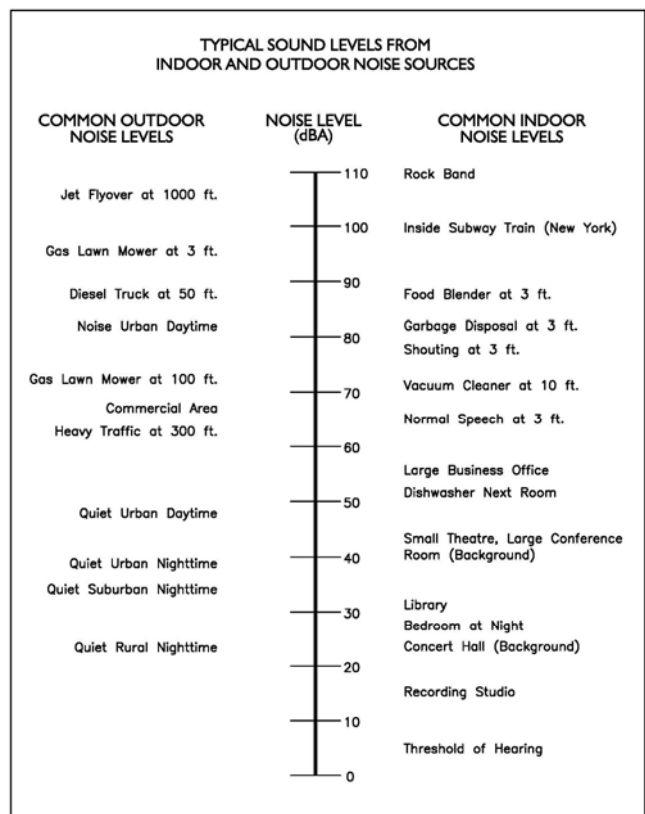
A continuous sound is described by its *frequency* (pitch) and its *amplitude* (loudness). Frequency relates to the number of pressure oscillations per second. Low-frequency sounds are low in pitch (bass sounding) and high-frequency sounds are high in pitch (squeak). These oscillations per second (cycles) are commonly referred to as Hertz (Hz). The human ear can hear from the bass pitch starting out at 20 Hz all the way to the high pitch of 20,000 Hz.

2.3 Sound Pressure Levels and Decibels

The *amplitude* of a sound determines its loudness. The loudness of sound increases or decreases as the amplitude increases or decreases. Sound pressure amplitude is measured in units of micro-Newton per square inch meter (N/m²), also called micro-Pascal (μPa). One μPa is approximately one hundred billionths (0.0000000001) of normal atmospheric pressure. Sound pressure level (SPL or L_p) is used to describe in logarithmic units the ratio of actual sound pressures to a reference pressure squared.

These units are called decibels abbreviated dB. Exhibit C illustrates reference sound levels for different noise sources.

Exhibit C: Typical A-Weighted Noise Levels



2.4 Addition of Decibels

Because decibels are on a logarithmic scale, sound pressure levels cannot be added or subtracted by simple plus or minus addition. When two sounds of equal SPL are combined, they will produce an SPL 3 dB greater than the original single SPL. In other words, sound energy must be doubled to produce a 3 dB increase. If two sounds differ by approximately 10 dB, the higher sound level is the predominant sound.

2.5 Sensitive Receptors

Noise-sensitive land uses include residential (single and multi-family dwellings, mobile home parks, dormitories, and similar uses); transient lodging (including hotels, motels, and similar uses); hospitals, nursing homes, convalescent hospitals, and other facilities for long-term medical care; public or private educational facilities, libraries, churches, and places of public assembly.

2.6 Human Response to Changes in Noise Levels

In general, the healthy human ear is most sensitive to sounds between 1,000 Hz and 5,000 Hz, (A-weighted scale) and it perceives a sound within that range as being more intense than a sound with a higher or lower frequency with the same magnitude. For purposes of this report as well as with most environmental documents, the A-scale weighting is typically reported in terms of A-weighted decibel (dBA). Typically, the human ear can barely perceive the change in noise level of 3 dB. A change in 5 dB is readily perceptible, and a change in 10 dB is perceived as being twice or half as loud. As previously discussed, a doubling of sound energy results in a 3 dB increase in sound, which means that a doubling of sound energy (e.g. doubling the volume of traffic on a highway) would result in a barely perceptible change in sound level.

Table 1: Decibel Changes and Loudness

Changes in Intensity Level, dBA	Changes in Apparent Loudness
1	Not perceptible
3	Just perceptible
5	Clearly noticeable
10	Twice (or half) as loud

Source: https://www.fhwa.dot.gov/environMent/noise/regulations_and_guidance/polguide/polguide02.cfm

2.7 Noise Descriptors

Noise in our daily environment fluctuates over time. Some noise levels occur in regular patterns, others are random. Some noise levels are constant while others are sporadic. Noise descriptors were created to describe the different time-varying noise levels.

A-Weighted Sound Level: The sound pressure level in decibels as measured on a sound level meter using the A-weighted filter network. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the response of the human ear. A numerical method of rating human judgment of loudness.

Ambient Noise Level: The composite of noise from all sources, near and far. In this context, the ambient noise level constitutes the normal or existing level of environmental noise at a given location.

Community Noise Equivalent Level (CNEL): The average equivalent A-weighted sound level during a 24-hour day, obtained after addition of five (5) decibels to sound levels in the evening from 7:00 to 10:00

PM and after addition of ten (10) decibels to sound levels in the night before 7:00 AM and after 10:00 PM.

Decibel (dB): A unit for measuring the amplitude of a 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 micro-pascals.

dB(A): A-weighted sound level (see definition above).

Equivalent Sound Level (LEQ): The sound level corresponding to a steady noise level over a given sample period with the same amount of acoustic energy as the actual time varying noise level. The energy average noise level during the sample period.

Habitable Room: Any room meeting the requirements of the Uniform Building Code or other applicable regulations which is intended to be used for sleeping, living, cooking or dining purposes, excluding such enclosed spaces as closets, pantries, bath or toilet rooms, service rooms, connecting corridors, laundries, unfinished attics, foyers, storage spaces, cellars, utility rooms and similar spaces.

L(n): The A-weighted sound level exceeded during a certain percentage of the sample time. For example, L10 in the sound level exceeded 10 percent of the sample time. Similarly, L50, L90 and L99, etc.

Noise: Any unwanted sound or sound which is undesirable because it interferes with speech and hearing, or is intense enough to damage hearing, or is otherwise annoying. The State Noise Control Act defines noise as "...excessive undesirable sound...".

Outdoor Living Area: Outdoor spaces that are associated with residential land uses typically used for passive recreational activities or other noise-sensitive uses. Such spaces include patio areas, barbecue areas, jacuzzi areas, etc. associated with residential uses; outdoor patient recovery or resting areas associated with hospitals, convalescent hospitals, or rest homes; outdoor areas associated with places of worship which have a significant role in services or other noise-sensitive activities; and outdoor school facilities routinely used for educational purposes which may be adversely impacted by noise. Outdoor areas usually not included in this definition are: front yard areas, driveways, greenbelts, maintenance areas and storage areas associated with residential land uses; exterior areas at hospitals that are not used for patient activities; outdoor areas associated with places of worship and principally used for short-term social gatherings; and, outdoor areas associated with school facilities that are not typically associated with educational uses prone to adverse noise impacts (for example, school play yard areas).

Percent Noise Levels: See L(n).

Sound Level (Noise Level): The weighted sound pressure level obtained by use of a sound level meter having a standard frequency-filter for attenuating part of the sound spectrum.

Sound Level Meter: An instrument, including a microphone, an amplifier, an output meter, and frequency weighting networks for the measurement and determination of noise and sound levels.

Single Event Noise Exposure Level (SENEL): The dB(A) level which, if it lasted for one second, would produce the same A-weighted sound energy as the actual event.

2.8 Traffic Noise Prediction

Noise levels associated with traffic depends on a variety of factors: (1) volume of traffic, (2) speed of traffic, (3) auto, medium truck (2 axle) and heavy truck percentage (3 axle and greater), and sound propagation. The greater the volume of traffic, higher speeds and truck percentages equate to a louder volume in noise. A doubling of the Average Daily Traffic (ADT) along a roadway will increase noise levels by approximately 3 dB; reasons for this are discussed in the sections above.

2.9 Sound Propagation

As sound propagates from a source it spreads geometrically. Sound from a small, localized source (i.e., a point source) radiates uniformly outward as it travels away from the source in a spherical pattern. The sound level attenuates at a rate of 6 dB per doubling of distance. The movement of vehicles down a roadway makes the source of the sound appear to propagate from a line (i.e., line source) rather than a point source. This line source results in the noise propagating from a roadway in a cylindrical spreading versus a spherical spreading that results from a point source. The sound level attenuates for a line source at a rate of 3 dB per doubling of distance.

As noise propagates from the source, it is affected by the ground and atmosphere. Noise models use hard site (reflective surfaces) and soft site (absorptive surfaces) to help calculate predicted noise levels. Hard site conditions assume no excessive ground absorption between the noise source and the receiver. Soft site conditions such as grass, soft dirt or landscaping attenuate noise at a rate of 1.5 dB per doubling of distance. When added to the geometric spreading, the excess ground attenuation results in an overall noise attenuation of 4.5 dB per doubling of distance for a line source and 7.5 dB per doubling of distance for a point source.

Research has demonstrated that atmospheric conditions can have a significant effect on noise levels when noise receivers are located 200 feet from a noise source. Wind, temperature, air humidity and turbulence can further impact how far sound can travel.

3.0 Ground-Borne Vibration Fundamentals

3.1 Vibration Descriptors

Ground-borne vibrations consist of rapidly fluctuating motions within the ground that have an average motion of zero. The effects of ground-borne vibrations typically only cause a nuisance to people, but at extreme vibration levels, damage to buildings may occur. Although ground-borne vibration can be felt outdoors, it is typically only an annoyance to people indoors where the associated effects of the shaking of a building can be notable. Ground-borne noise is an effect of ground-borne vibration and only exists indoors, since it is produced from noise radiated from the motion of the walls and floors of a room and may also consist of the rattling of windows or dishes on shelves.

Several different methods are used to quantify vibration amplitude.

PPV – Known as the peak particle velocity (PPV) which is the maximum instantaneous peak in vibration velocity, typically given in inches per second.

RMS – Known as root mean squared (RMS) can be used to denote vibration amplitude

VdB – A commonly used abbreviation to describe the vibration level (VdB) for a vibration source.

3.2 Vibration Perception

Typically, developed areas are continuously affected by vibration velocities of 50 VdB or lower. These continuous vibrations are not noticeable to humans whose threshold of perception is around 65 VdB. Outdoor sources that may produce perceptible vibrations are usually caused by construction equipment, steel-wheeled trains, and traffic on rough roads, while smooth roads rarely produce perceptible ground-borne noise or vibration. To counter the effects of ground-borne vibration, the Federal Transit Administration (FTA) has published guidance relative to vibration impacts. According to the FTA, fragile buildings can be exposed to ground-borne vibration levels of 0.3 inches per second without experiencing structural damage.

There are three main types of vibration propagation: surface, compression, and shear waves. Surface waves, or Rayleigh waves, travel along the ground's surface. These waves carry most of their energy along an expanding circular wave front, similar to ripples produced by throwing a rock into a pool of water. P-waves, or compression waves, are body waves that carry their energy along an expanding spherical wave front. The particle motion in these waves is longitudinal (i.e., in a "push-pull" fashion). P-waves are analogous to airborne sound waves. S-waves, or shear waves, are also body waves that carry energy along an expanding spherical wave front. However, unlike P-waves, the particle motion is transverse, or side-to-side and perpendicular to the direction of propagation. As vibration waves propagate from a source, the vibration energy decreases in a logarithmic nature and the vibration levels typically decrease by 6 VdB per doubling of the distance from the vibration source. As stated above, this drop-off rate can vary greatly depending on the soil but has been shown to be effective enough for screening purposes, in order to identify potential vibration impacts that may need to be studied through actual field tests.

4.0 Regulatory Setting

The proposed project is located in the City of Lodi, CA, and noise regulations are addressed through the efforts of various federal, state and local government agencies. The agencies responsible for regulating noise are discussed below.

4.1 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:

- Publicize noise emission standards for interstate commerce
- Assist state and local abatement efforts
- Promote noise education and research

The Federal Office of Noise Abatement and Control (ONAC) originally was tasked with implementing the Noise Control Act. However, it was eventually eliminated leaving other federal agencies and committees to develop noise policies and programs. Some examples of these agencies are as follows: The Department of Transportation (DOT) assumed a significant role in noise control through its various agencies. The Federal Aviation Agency (FAA) is responsible to regulate noise from aircraft and airports. The Federal Highway Administration (FHWA) is responsible to regulate noise from the interstate highway system. The Occupational Safety and Health Administration (OSHA) is responsible for the prohibition of excessive noise exposure to workers.

The federal government advocates that local jurisdiction use their land use regulatory authority to arrange new development in such a way that “noise sensitive” uses are either prohibited from being constructed adjacent to a highway or, or alternatively that the developments are planned and constructed in such a manner that potential noise impacts are minimized.

Since the federal government has preempted the setting of standards for noise levels that can be emitted by the transportation source, the City is restricted to regulating the noise generated by the transportation system through nuisance abatement Codes and land use planning.

4.2 State Regulations

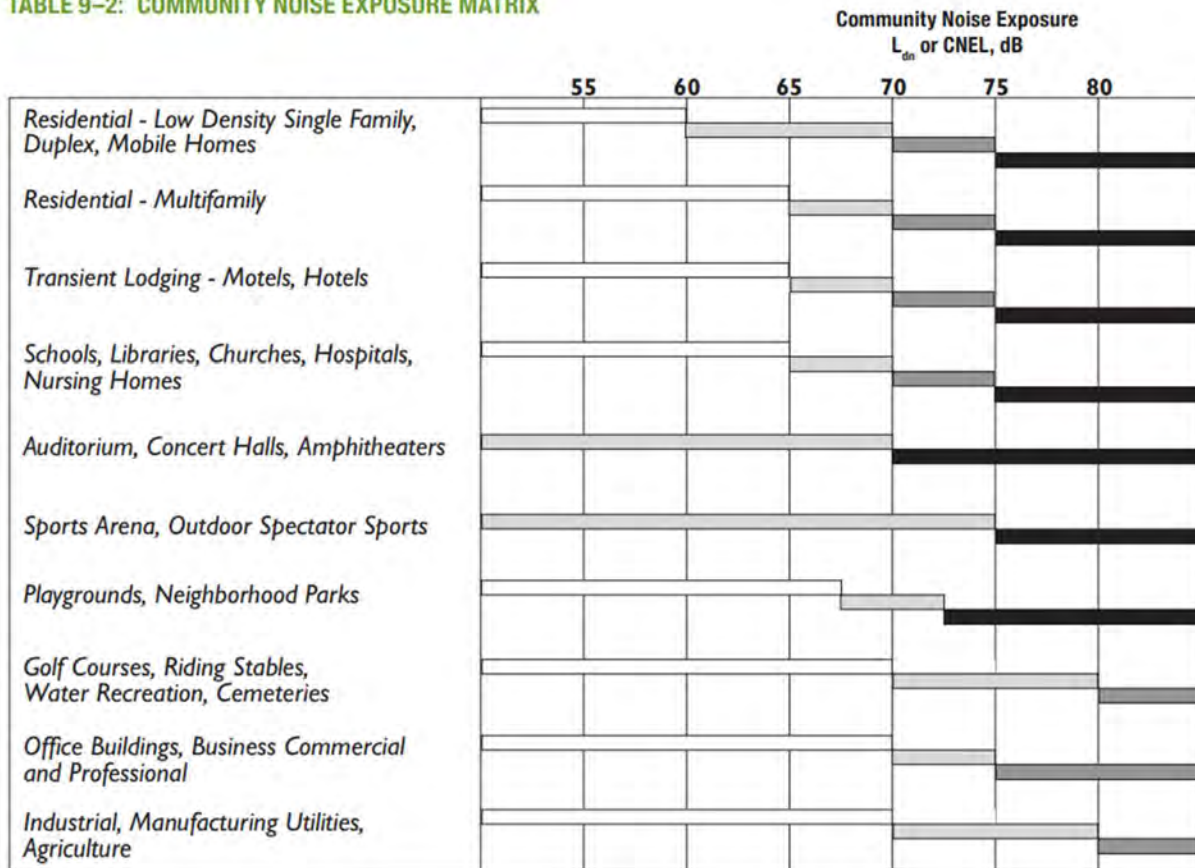
Established in 1973, the California Department of Health Services Office of Noise Control (ONC) was instrumental in developing regularity tools to control and abate noise for use by local agencies. One significant model is the “Land Use Compatibility for Community Noise Environments Matrix.” The matrix allows the local jurisdiction to clearly delineate compatibility of sensitive uses with various incremental levels of noise.

The State of California has established noise insulation standards as outlined in Title 24 and the Uniform Building Code (UBC) which in some cases requires acoustical analyses to outline exterior noise levels and to ensure interior noise levels do not exceed the interior threshold. The State mandates that the legislative body of each county and city adopt a noise element as part of its comprehensive general plan.

The local noise element must recognize the land use compatibility guidelines published by the State Department of Health Services. The guidelines rank noise land use compatibility in terms of normally acceptable, conditionally acceptable, normally unacceptable, and clearly unacceptable as illustrated in Exhibit D, which presents the City of Lodi’s adaptation of these guidelines (Table 9-2 from the General Plan).

Exhibit D: Land Use Compatibility Guidelines

TABLE 9-2: COMMUNITY NOISE EXPOSURE MATRIX



INTERPRETATION:

Normally Acceptable
 Conditionally Acceptable
 Normally Unacceptable
 Clearly Unacceptable

4.3 City of Lodi Noise Regulations

The City of Lodi outlines their noise regulations and standards within the Noise Element from the General Plan and the Noise Ordinance from the Municipal Code.

City of Lodi General Plan

Applicable policies and acceptable noise limits governing environmental noise in the City of Lodi are set forth in the Noise Element. The City has specified acceptable noise limits for various land uses for both exterior and interior environments (Table 9-3 from the General Plan). These limits are presented below:

Land Use	Outdoor Activity Areas¹ (CNEL)	Indoor Areas (CNEL)
Residential	60	45
Motels, Hotels		
Public/Semi-Public	65	45
Recreational	65	50
Commercial		
Industrial	70	65

1. For non-residential uses, where an outdoor activity area is not proposed, the standard does not apply.

Policies

Guiding policies and implementing policies from the Noise Element that would mitigate potential impacts on noise include the following.

Guiding Policies

- N-G1 Protect humans, the natural environment, and property from manmade hazards due to excessive noise exposure.
- N-G2 Protect sensitive uses, including schools, hospitals, and senior care facilities, from excessive noise.

Implementing Policies

- N-P1 Control and mitigate noise at the source where feasible, as opposed to at the receptor end.
- N-P2 Encourage the control of noise through site design, building design, landscaping, hours of operation, and other techniques for new development deemed to be noise generators.
- N-P3 Use the noise and land use compatibility matrix (Table 9-2) and allowable noise exposure levels (Table 9-3) as review criteria for all new land uses. Incorporate noise attenuation measures for all projects that have noise exposure levels of “conditionally acceptable” and higher. These may include:
 - Façades constructed with substantial weight and insulation;
 - Sound-rated windows in habitable rooms;
 - Sound-rated doors in all exterior entries;

- Active cancellation;
 - Acoustic baffling of vents for chimneys, fans and gable ends;
 - Ventilation system affording comfort under closed-window conditions; and
 - Double doors and heavy roofs with ceilings of two layers of gypsum board on resilient channels to meet the highest noise level reduction requirements.
- N-P4 Discourage noise sensitive uses such as residences, hospitals, schools, libraries, and rest homes from locating in areas with noise levels above 65db. Conversely, do not permit new uses likely to produce high levels of noise (above 65db) from locating in or adjacent to areas with existing or planned noise-sensitive uses.
- N-P5 Noise sensitive uses, such as residences, hospitals, schools, libraries, and rest homes, proposed in areas that have noise exposure levels of “conditionally acceptable” and higher must complete an acoustical study, prepared by a professional acoustic engineer. This study should specify the appropriate noise mitigation features to be included in the design and construction of these uses, to achieve interior noise levels consistent with Table 9-3.
- N-P6 Where substantial traffic noise increases (to above 70db) are expected, such as on Lower Sacramento Road or Harney Lane, as shown on the accompanying graphic, require a minimum 12-foot setback for noise-sensitive land uses, such as residences, hospitals, schools, libraries, and rest homes.
- N-P7 Require developers of potentially noise-generating new developments to mitigate the noise impacts on adjacent properties as a condition of permit approval. This should be achieved through appropriate means, such as:
- Dampening or actively canceling noise sources;
 - Increasing setbacks for noise sources from adjacent dwellings;
 - Using soundproofing materials and double-glazed windows;
 - Screening and controlling noise sources, such as parking and loading Chapter 9: Noise | 9-11 facilities, outdoor activities, and mechanical equipment;
 - Using open space, building orientation and design, landscaping and running water to mask sounds; and
 - Controlling hours of operation, including deliveries and trash pickup.
- N-P8 Update Noise Ordinance regulations to address allowed days and hours of construction, types of work, construction equipment (including noise and distance thresholds), notification of neighbors, and sound attenuation devices.
- N-P14 Reduce vibration impacts on noise-sensitive land uses (such as residences, hospitals, schools, libraries, and rest homes) adjacent to the railroad, SR-99, expressways, and near noise-generating industrial uses. This may be achieved through site planning, setbacks,

and vibration-reduction construction methods such as insulation, soundproofing, staggered studs, double drywall layers, and double walls.

City of Lodi Municipal Code

Chapter 9.24 – Noise Regulation of the City’s Municipal Code outlines the City’s noise ordinance.

9.24.030 - Excessive, offensive or disturbing noise.

The following activities are declared to cause excessive, offensive or disturbing noise in violation of this section, but said enumeration shall not be deemed exclusive:

- A. It is unlawful for any person to sound any horn or other signaling device on any vehicle except as an emergency or danger warning signal. This provision shall be inapplicable to the sounding of any horn, bell, whistle, siren or other audible warning device which is operated in compliance with Section 7064 of the California Public Utilities Code, or with any other state or federal provision governing railroad operations.
- B. It is unlawful to play or operate any drum, radio, phonograph, loudspeaker, sound amplifier, stereo, television, or other similar sound system, whether mobile or from a fixed location upon the public streets, public right-of-way or in public parks in such a fashion that it is clearly audible at a distance of fifty feet. The city council finds and declares that any sound or noise audible at such distance endangers the public safety and welfare by interference with normal human capability for hearing nearby traffic movement and warning signals. This section shall be inapplicable to radio systems operated under or pursuant to Federal Communications Commission licenses in the regular course of business.

It is found and declared as a matter of legislative policy that the operation of the aforementioned equipment or instruments on the public streets and rights-of-way adjacent to public parks during the hours between ten p.m. and seven a.m. in such a manner as to be clearly audible at a distance of fifty feet or greater shall constitute prima facie evidence of a violation of this section.

- C. It is unlawful for any person, firm or corporation to cause, permit, or generate any noise or sound as described herein between the hours of ten p.m. and seven a.m. which exceeds the ambient noise level at the property line of any residential property (or, if a condominium or apartment house within any adjoining apartment) as determined at the time of such reading by more than five decibels. This section shall be applicable whether such noise or sound is of a commercial or noncommercial nature.

5.0 Study Method and Procedure

The following section describes the noise modeling procedures and assumptions used for this assessment.

5.1 Noise Measurement Procedure and Criteria

Noise measurements are taken to determine the existing noise levels. A noise receiver or receptor is any location in the noise analysis in which noise might produce an impact. The following criteria are used to select measurement locations and receptors:

- Locations expected to receive the highest noise impacts, such as first row of houses
- Locations that are acoustically representative and equivalent of the area of concern
- Human land usage
- Sites clear of major obstruction and contamination

MD conducted the sound level measurements in accordance with the Caltrans TeNS manual. All measurements equipment meets American National Standards Institute (ANSI) specifications for sound level meters (S1.4-1983 identified in Chapter 19.68.020.AA). MD noise measurement procedures are presented below:

- Microphones for sound level meters were placed 5 feet above the ground for all measurements
- Sound level meters were calibrated (Larson Davis CAL 200) before and after each measurement
- Following the calibration of equipment, a windscreen was placed over the microphone
- Frequency weighting was set on “A” and slow response
- Results of the noise measurements were recorded on field data sheets
- During any short-term noise measurements any noise contaminations such as barking dogs, local traffic, lawnmowers, or aircraft fly-overs were noted
- Temperature and sky conditions were observed and documented

5.2 Noise Measurement Locations

Noise monitoring locations were selected to obtain a baseline of the existing noise environment. Two long-term noise measurements were conducted at or near the Project site. Appendix A includes photos, field sheet, and measured noise data. Exhibit E illustrates the location of the measurements.

5.3 SoundPLAN Noise Model (Operational Noise)

SoundPLAN acoustical modeling software was utilized to model project operational noise at nearby sensitive receptors. The SoundPLAN software utilizes algorithms (based on the inverse square law) to calculate noise level projections. It allows the user to input specific noise sources, spectral content, sound barriers, building placement, topography, and sensitive receptor locations. It also calculates noise level increases due to the reflection of noise from hard surfaces.

Measured and referenced sound level data was utilized to model the various stationary on-site noise sources associated with project operation, (i.e. HVAC and parking movements).

Noise associated with proposed truck and automobile parking areas was modeled using the SoundPLAN parking tool. The Project proposes 98 total parking spaces. The CalEEMod estimates 1,606 daily trips to and from the Project site. The parking lot was modeled with a lot-wide average of 5.5 movement per space per hour, assuming 1/3 of all daily trips occur during the peak hour. The model also includes the drop-off/pick-up lanes in the west and south parking lots. The drop-off/pick-up line was modeled as a line source with a car idling every 6 feet in the queue. The model includes 42 6-ton HVAC rooftop units, assuming 1 ton cools 350 square feet. The rooftop units were modeled as continuous point sources each with a sound power level of 78 dBA.

The model includes 15 point sources representing the tetherball areas, three (3) area sources representing the playground areas, one (1) area source representing the soccer field, and four (4) point sources representing the basketball courts. All sources were modeled using SoundPLAN reference data.

Modeling assumptions are summarized in Table 2. SoundPLAN noise modeling input and results are provided in Appendix B.

Table 2: SoundPLAN Modeling Assumptions

Noise Source	Source Type	Reference Level	Descriptor
HVAC	Point Source	78	Lw
Parking	Area (Parking Tool)	5.5	Movements per hr
Idling Cars	Line Source	59	Lp @ 3 ft per car
Tetherball	Point Source	84	Lw
Basketball	Point Source	87	Lw
Playground	Area Source	60	Lw/m ²
Soccer	Area Source	62	Lw/m ²

Source: See Appendix B.

5.4 Construction Noise Modeling

Construction noise associated with the proposed project was calculated utilizing methodology presented in the Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual (2018) together with several key construction parameters including: distance to each sensitive receiver, equipment usage, percent usage factor, and baseline parameters for the Project site. Construction activities are anticipated to include five phases: site preparation, grading, building construction, paving, and architectural coating.

Construction noise levels were calculated for each phase based on the CalEEMod prepared for this project. Construction worksheets are provided in Appendix C.

6.0 Existing Noise Environment

Two (2) 24-hour noise measurements were conducted at the project site to document the existing noise environment. The measurement includes the 1-hour Leq, Lmin, Lmax, and other statistical data (e.g. L2, L8). Table 3 shows the noise measurement results at the northeast corner of the site (NM1). Table 4 shows the noise measurement results at the southwest corner of the site (NM2). Traffic noise from Westgate Drive was the primary source of noise impacting the Project site.

Table 3: Long-Term Noise Measurement Data (NM1)¹

Date	Time	1-Hour dB(A)							
		LEQ	LMAX	LMIN	L2	L8	L25	L50	L90
10/6/2025	4:00 PM	39.4	52.9	33.1	43.9	42	40.1	38.3	36.9
10/6/2025	5:00 PM	39.7	50.8	32.9	43.3	42.3	40.5	39	37.1
10/6/2025	6:00 PM	43.1	60.7	35.8	49.2	44.6	43.2	42	40.4
10/6/2025	7:00 PM	43.6	58	36.8	47.1	45.8	44.3	42.8	41.1
10/6/2025	8:00 PM	46.4	63.9	38.6	50.9	49.3	46.3	45.1	43.4
10/6/2025	9:00 PM	45.4	63.3	36.9	51.1	48.4	45.2	44	41.9
10/6/2025	10:00 PM	47.8	76.3	35.5	51.2	45.3	42.8	41.9	39.9
10/6/2025	11:00 PM	41.1	54.9	34	45.3	43.1	42.4	40.5	37.1
10/7/2025	12:00 AM	40.5	62	33	47.4	43	40.6	38.8	35.7
10/7/2025	1:00 AM	39	55.3	32.8	45	42.2	39.3	37.6	34.9
10/7/2025	2:00 AM	38.8	50.7	33.4	43	41	39.8	38.2	35.3
10/7/2025	3:00 AM	39.5	58.7	33.8	44.9	41.4	40	38.4	36
10/7/2025	4:00 AM	41.4	49.7	35.9	44.5	43.4	42.2	41	38.6
10/7/2025	5:00 AM	43.5	53.3	38.1	45.8	45.1	44.1	43.2	41.4
10/7/2025	6:00 AM	47.9	68.4	41.2	54.4	50.4	47.7	46.7	43.8
10/7/2025	7:00 AM	48.6	56.1	43.8	50.3	49.9	49.2	48.5	47.3
10/7/2025	8:00 AM	46.1	62	41.1	49.3	48.1	47.2	45.8	43.6
10/7/2025	9:00 AM	43.3	59.3	37.1	47.1	46.2	44	42.9	39.8
10/7/2025	10:00 AM	41.3	59.7	35.2	47.9	43.6	41.5	40.4	37.7
10/7/2025	11:00 AM	39.7	54.3	34.5	43.6	42.3	40.5	38.2	36.6
10/7/2025	12:00 PM	39.4	53.7	33.8	43.3	41.7	40.2	38.4	36.4
10/7/2025	1:00 PM	40	62	33.3	45.8	42.4	40.5	37.7	36.2
10/7/2025	2:00 PM	39.9	55.9	32.4	46.8	43.4	38.9	37.7	35.8
10/7/2025	3:00 PM	41.3	59.3	33	48.4	43.8	41.3	39	36.2
CNEL		50.4							
Notes:									
¹ Long-term noise monitoring location (NM1) is illustrated in Exhibit E.									

Table 4: Long-Term Noise Measurement Data (NM2)¹

Date	Time	1-Hour dB(A)							
		L _{EQ}	L _{MAX}	L _{MIN}	L ₂	L ₈	L ₂₅	L ₅₀	L ₉₀
10/6/2025	4:00 PM	51.8	73.8	32.6	61.7	56.7	50	45.1	37.3
10/6/2025	5:00 PM	48.1	71.7	32	55.9	51.4	48.8	44.9	37.8
10/6/2025	6:00 PM	48.6	73.2	34.1	56	53.3	48.9	45.2	38.4
10/6/2025	7:00 PM	45.6	64.3	34.7	50.9	50	46.9	41.9	39.5
10/6/2025	8:00 PM	46.3	67.3	37.7	53	50.7	46.7	43.7	40.9
10/6/2025	9:00 PM	46.9	69.4	36.2	54.8	51.5	45.3	41.6	40.1
10/6/2025	10:00 PM	45.2	66.2	35.1	54.8	47.6	42.1	40.5	38.1
10/6/2025	11:00 PM	42.5	61	33.6	48.5	45.8	42.3	40.6	37
10/7/2025	12:00 AM	40.6	59.8	32.9	47.9	43.7	40.4	38.6	35.7
10/7/2025	1:00 AM	38.6	55.5	33.1	43.9	41.3	38.9	37.1	35.2
10/7/2025	2:00 AM	39	49.5	33.2	43.6	41.5	40	37.7	35.9
10/7/2025	3:00 AM	39.1	51.7	33.8	43.5	41.4	39.7	38.4	36.3
10/7/2025	4:00 AM	42.2	60.7	36.5	45.9	43.3	42.6	41.2	39.3
10/7/2025	5:00 AM	45	63.9	38.9	51.4	48	44.4	43.5	41.7
10/7/2025	6:00 AM	50.2	72	41.3	55.6	52.8	49.8	48	44.2
10/7/2025	7:00 AM	51.3	65.4	44.5	55.9	54.4	51.8	50.4	47.9
10/7/2025	8:00 AM	54.7	83.5	41.2	61.5	54.1	50.7	49.4	45.1
10/7/2025	9:00 AM	49.1	68.5	36.8	54.9	53.2	50.2	46.7	43
10/7/2025	10:00 AM	47.9	72.5	34.9	54.2	50.9	47	43.8	39.2
10/7/2025	11:00 AM	51	74.6	33	60.1	53.9	47.5	42.1	36.2
10/7/2025	12:00 PM	56.7	84.7	32.7	62.1	58.9	53.3	47.4	38.3
10/7/2025	1:00 PM	53	74.1	32.3	61.7	59.4	51.2	44.3	36
10/7/2025	2:00 PM	52.3	75.5	31.7	60.6	58.5	49.6	46.9	38.9
10/7/2025	3:00 PM	51.6	76.9	32.2	61.3	57.1	47.6	45.1	35.7
CNEL		50.3							
Notes:									
¹ Long-term noise monitoring location (NM2) is illustrated in Exhibit E.									

Noise data indicates the ambient noise levels during operational hours (6 AM to 4 PM) ranged from 39 to 49 dBA Leq at NM1 and 48 to 57 dBA Leq at NM2. The 24-hour ambient noise level ranged from 50 to 53 dBA CNEL at the Project site. The field data and observations indicate that traffic on Westgate Drive is the dominant source of noise.

Measurement Locations

X = Long-term Measurement location



7.0 Future Noise Environment Impacts and Mitigation

This assessment analyzes future noise impacts to sensitive receptors and to the Project and compares the results to the City’s Noise Standards. The analysis details the estimated exterior noise levels associated with stationary noise sources and traffic from adjacent roadway sources.

7.1 Future Off-Site Exterior Noise

The exterior noise level off-site of the project will be impacted by transportation-related sources and stationary sources from the site. The following outlines the impacts associated with exterior noise levels.

7.1.1 Off-Site Traffic Noise Impact

The Project did not require a traffic analysis because it was under threshold. However, the following provides a brief description of potential traffic noise impact. Traffic noise along Westgate Drive is the main source of noise impacting the Project site and the surrounding area. Westgate Drive has an existing ADT of 2,270, per the City of Lodi Average Daily Traffic Volume Map. The Project projects 1,606 daily trips, per the CalEEMod. It takes a change of 3 dB or more to hear an audible difference, which would occur with a doubling of traffic. The Project will increase the existing traffic noise by up to 2 dB, therefore, the impact is less than significant.

7.1.2 Noise Impacts to Off-Site Receptors Due to Stationary Noise Sources

Worst-case operational noise was modeled using SoundPLAN acoustical modeling software (see Exhibit F). Six (6) receptors were modeled using the SoundPLAN noise model to evaluate the proposed Project’s operational impact. A receptor is denoted by a yellow dot. All yellow dots represent a property line or a sensitive receptor.

Receptors 1, 5, and 6 represent existing and future residential property lines, receptor 2 represents the neighboring church property line, receptor 3 represents the nearest outdoor use of the school to the east, and receptor 4 represents the undeveloped land to the south. The operational noise model assumes that the HVAC equipment is operating continuously for 24 hours, and that all other noise sources are operating from 6 AM to 4 PM.

Table 5 presents the ambient noise level, the Project’s noise level, and the combined Project plus ambient noise level condition.

<Table 5, next page>

Table 5: Operational Noise Levels (dBA CNEL)

Receptor ¹	Existing Ambient Noise Level (dBA CNEL) ²	Project Noise Level (dBA CNEL) ³	Total Combined Noise Level (dBA CNEL)	Normally Acceptable Noise Limit (dBA CNEL)	Change in Noise Level as Result of Project
1	50	59	60	60	10
2	50	50	53	65	3
3	53	45	54	65	1
4	53	57	59	-	6
5	53	56	58	60	5
6	50	54	56	60	6

Notes:

¹ Receptors 1, 5, and 6 are residential uses, receptor 2 is a church, receptor 3 is a school, and receptor 4 is undeveloped.

² See Appendix A for noise measurement field sheet.

³ See Exhibit F for the operational noise level projections at said receptors.

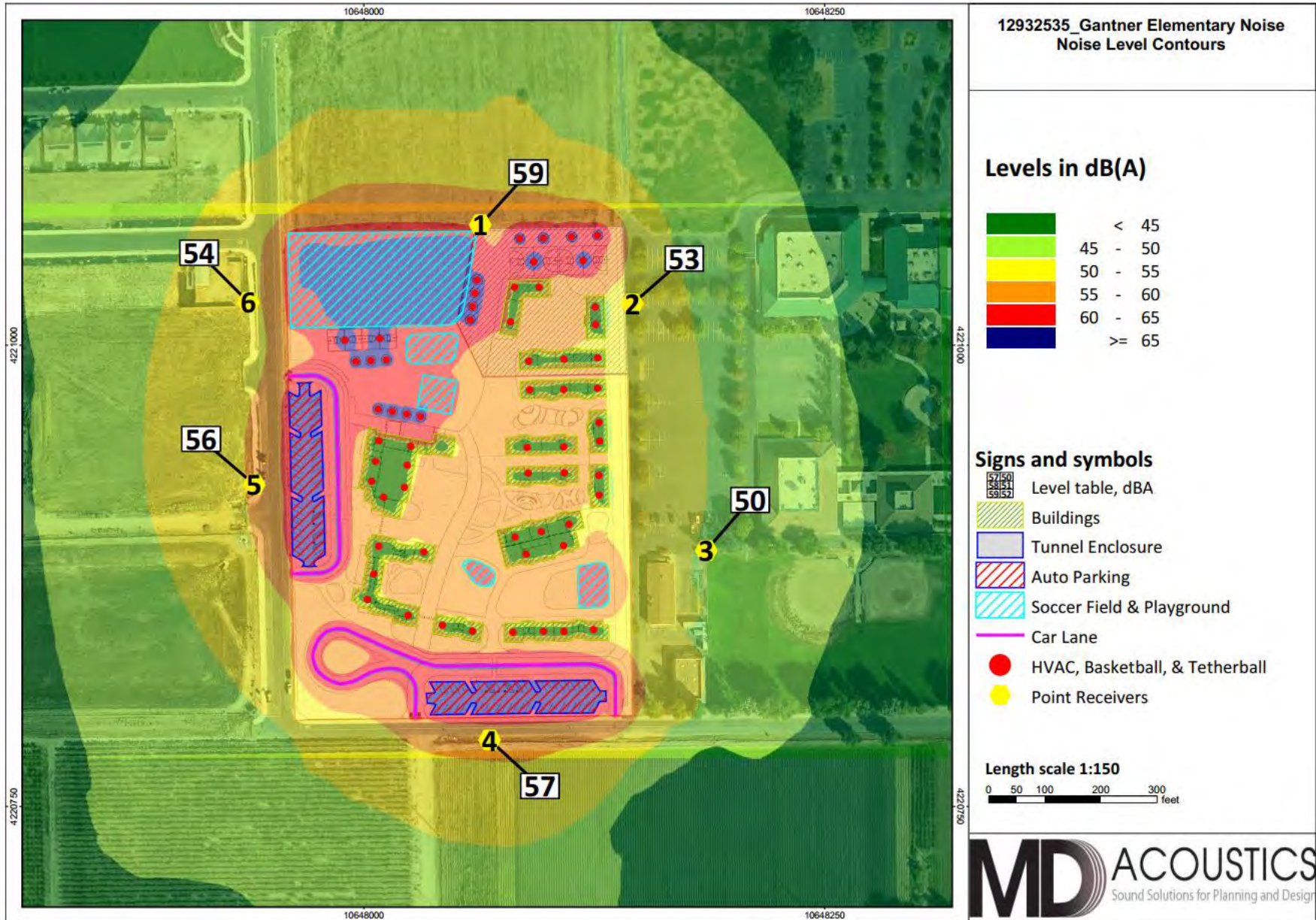
As shown in Table 5, operational noise levels are expected to be 50 to 59 dBA CNEL at adjacent residential receptors and will fall within the City’s normally acceptable range of 60 dBA CNEL for residential uses (see Exhibit D). The operational noise level at the school and church receptors is expected to be 45 to 50 dBA CNEL and falls within the normally acceptable range for church and school land uses of 65 dBA CNEL. Existing plus project noise level projections are anticipated to be 53 to 60 dBA CNEL at the surrounding receptors. Project-generated operational noise is not expected to increase the existing ambient noise level at the nearby receptors. Thus, the impact is less than significant.

7.2 Noise Impacts to On-Site Receptors Due to Traffic

The Project did not require a traffic analysis because it was under threshold. However, traffic is the primary source of noise impacting the Project site. The existing ambient noise level on the Project site is 50 to 53 dBA CNEL. Per the Noise Element of the General Plan, school uses are normally acceptable up to 65 dBA CNEL. The Project thus falls within the normally acceptable land use compatibility.

Exhibit F

Operational Noise Level Contours - CNEL



8.0 Construction Noise and Vibration Impacts

The degree of construction noise may vary for different areas of the project site and also vary depending on the construction activities. Project construction will occur in five phases, site preparation, grading, building construction, paving, and architectural coating. This section summarizes discusses noise and ground-borne vibration modeling efforts, impact analysis, and mitigation, if necessary.

8.1 Construction Noise

Typical construction equipment noise levels are presented in Table 6.

Table 6: Typical Construction Equipment Noise Levels¹

EQUIPMENT POWERED BY INTERNAL COMBUSTION ENGINES	
Type	Noise Levels (dBA) at 50 Feet
Earth Moving	
Compactors (Rollers)	73 - 76
Front Loaders	73 - 84
Backhoes	73 - 92
Tractors	75 - 95
Scrapers, Graders	78 - 92
Pavers	85 - 87
Trucks	81 - 94
Materials Handling	
Concrete Mixers	72 - 87
Concrete Pumps	81 - 83
Cranes (Movable)	72 - 86
Cranes (Derrick)	85 - 87
Stationary	
Pumps	68 - 71
Generators	71 - 83
Compressors	75 - 86
IMPACT EQUIPMENT	
Type	Noise Levels (dBA) at 50 Feet
Saws	71 - 82
Vibrators	68 - 82
Notes:	
¹ Referenced Noise Levels from the Environmental Protection Agency (EPA)	

Construction noise is considered a short-term impact and would be considered significant if construction activities are taken outside the allowable times as described in the City’s Municipal Code (Section 9.24.030(C)). Construction is anticipated to occur during the permissible hours (7 a.m. to 10 p.m.)

according to the City’s Municipal Code. The City does not have a defined significance threshold for construction noise, however, the FTA recommends a construction noise level threshold of 80 dBA Leq. MD has applied the FTA threshold for construction noise to analyze the noise impact due to construction activities.

Construction noise is considered a short-term impact and would be considered significant if construction activity does not follow the above requirements or if construction occurs outside the allowable times as described in the City’s Municipal Code. Construction noise will have a temporary or periodic increase in the ambient noise level above the existing within the project vicinity. The construction noise impact is considered less than significant; however, construction noise level projections are provided.

The closest sensitive land use to the project is the church to the east of the site. The church property is an average of 320 feet away from construction activities (distance from the center of the project site to the church property line) and as close as 20 feet from construction activities (distance from the edge of the project site to the church property line).

Construction equipment was taken from the project’s CalEEMod. Typical operating cycles for these types of construction equipment may involve one or two minutes of full power operation followed by three to four minutes at lower power settings. Noise levels are in Table 7. A likely worst-case construction noise scenario assumes equipment operating as close as 20 feet and an average of 320 feet from the property line of the nearest sensitive receptor, the church to the east. Leq levels represent the average construction noise level during each phase. The construction noise calculation output worksheet is located in Appendix C.

Table 7: Construction Noise Level by Phase (dBA, Leq)

Phase	dBA Leq
Site Preparation	71.6
Grading	69.8
Building Construction	70.0
Paving	60.9
Architectural Coating	57.9

As shown in Table 7, project construction noise is expected to range between 58 to 72 dBA Leq at the nearest sensitive receptor. Thus, construction noise levels will be below the FTA 80 dBA Leq threshold for construction noise. The project will be required to adhere to the allowed times for construction outlined in the Municipal Code in Section 9.24.030(C). The impact is less than significant, and no mitigation is required.

8.2 Construction Vibration

Construction activities can produce vibration that may be felt by adjacent land uses. The construction of the proposed project would not require the use of equipment such as pile drivers, which are known to generate substantial construction vibration levels. The primary vibration source during construction may be from a vibratory roller. A large vibratory roller has a vibration impact of 0.210 inches per second peak particle velocity (PPV) at 25 feet which is perceptible but below any risk to architectural damage.

The fundamental equation used to calculate vibration propagation through average soil conditions and distance is as follows:

$$PPV_{\text{equipment}} = PPV_{\text{ref}} (100/D_{\text{rec}})^n$$

Where: PPV_{ref} = reference PPV at 100ft.

D_{rec} = distance from equipment to receiver in ft.

$n = 1.1$ (the value related to the attenuation rate through ground)

The thresholds from the Caltrans Transportation and Construction Induced Vibration Guidance Manual in Table 8 (below) provides general thresholds and guidelines as to the vibration damage potential from vibratory impacts.

Table 8: Guideline Vibration Damage Potential Threshold Criteria

Structure and Condition	Maximum PPV (in/sec)	
	Transient Sources	Continuous/Frequent Intermittent Sources
Extremely fragile historic buildings, ruins, ancient monuments	0.12	0.08
Fragile buildings	0.2	0.1
Historic and some old buildings	0.5	0.25
Older residential structures	0.5	0.3
New residential structures	1.0	0.5
Modern industrial/commercial buildings	2.0	0.5

Source: Table 19, Transportation and Construction Vibration Guidance Manual, Caltrans, Sept. 2013.
 Note: Transient sources create a single isolated vibration event, such as blasting or drop balls. Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.

Table 9 gives approximate vibration levels for particular construction activities. This data provides a reasonable estimate for a wide range of soil conditions.

Table 9: Vibration Source Levels for Construction Equipment

Equipment	Peak Particle Velocity (inches/second) at 25 feet	Approximate Vibration Level LV (dVB) at 25 feet
	Pile driver (impact)	1.518 (upper range)
	0.644 (typical)	104
Pile driver (sonic)	0.734 upper range	105
	0.170 typical	93
Clam shovel drop (slurry wall)	0.202	94
Hydromill	0.008 in soil	66
(slurry wall)	0.017 in rock	75
Vibratory Roller	0.21	94
Hoe Ram	0.089	87
Large bulldozer	0.089	87
Caisson drill	0.089	87
Loaded trucks	0.076	86
Jackhammer	0.035	79
Small bulldozer	0.003	58

Source: Transit Noise and Vibration Impact Assessment, Federal Transit Administration, May 2018.

The nearest residential building facade is 125 feet west of the Project site. At this distance, a vibratory roller would yield a worst-case 0.036 PPV (in/sec) which may be perceptible but will not result in architectural damage. The impact is not significant and no mitigation is required. The ground-borne vibration worksheet is provided in Appendix D.

9.0 References

State of California General Plan Guidelines: 1998. Governor’s Office of Planning and Research

City of Lodi: 2045 General Plan Noise Element.

City of Lodi: Municipal Code Chapter 9.18 – Disturbing, Excessive, Loud, or Offensive Noise.

Konan Vibration Criteria

Federal Highway Administration. Noise Barrier Design Handbook. June 2017.

Federal Transit Administration. Transit Noise and Vibration Impact Assessment Manual. September 2018

SoundPLAN International, LLC. SoundPLAN Essential 5.1 Manual.

MD Acoustics, LLC. CalEEMod Gantner Elementary Detailed Report. January 2026.

Appendix A:
Field Measurement Data

24-Hour Continuous Noise Measurement Datasheet - LT1, LT2

Project Name: Gantner Elementary Noise
Project: #/Name: 1293-2025-035
Site Address/Location: Vine Street & Westgate Drive
Date: 10/06/2025
Field Tech/Engineer: Joel Demir

Site Observations:
Infrequent traffic on Westgate drive is the primary source of noise. Temps in the upper 80's, little to no wind

Sound Meter: Piccolo-II, SoftdB **SN:** PO222022803
Settings: A-weighted, slow, 1-min, 24-hour duration
Site Id: LT1, LT2



STICS

24-Hour Continuous Noise Measurement Datasheet - Cont. - LT1, LT2

Project Name: Gantner Elementary Noise
Site Address/Location: Vine Street & Westgate Drive
Site Id: LT1, LT2

Calibrator:
Cal Check: Pre-test: **Post Test:**

Figure 1: LT1



Figure 2: LT1



Figure 3: LT2



24-Hour Continuous Noise Measurement Datasheet - Cont. - LT1, LT2

Project Name: Gantner Elementary Noise
Site Address/Location: Vine Street & Westgate Drive
Site Id: LT1, LT2

Calibrator:
Cal Check: Pre-test: **Post Test:**

Figure 4: LT2



24-Hour Continuous Noise Measurement Datasheet - Cont. - LT1

Project Name:	Gantner Elementary Noise	Site Topo:	flat	Day:	1 of 2
Site Address/Location:	Vine Street & Westgate Drive	Meteorological Cond.:		Noise Source(s) w/ Distance:	
Site Id:	LT1	Ground Type:	soft		Westgate Dr. @ 579 ft

Table 1: Baseline Noise Measurement Summary

Date	Start	Stop	Leq	Lmax	Lmin	L2	L8	L25	L50	L90
10/6/2025	4:00 PM	5:00 PM	39.4	52.9	33.1	43.9	42	40.1	38.3	36.9
10/6/2025	5:00 PM	6:00 PM	39.7	50.8	32.9	43.3	42.3	40.5	39	37.1
10/6/2025	6:00 PM	7:00 PM	43.1	60.7	35.8	49.2	44.6	43.2	42	40.4
10/6/2025	7:00 PM	8:00 PM	43.6	58	36.8	47.1	45.8	44.3	42.8	41.1
10/6/2025	8:00 PM	9:00 PM	46.4	63.9	38.6	50.9	49.3	46.3	45.1	43.4
10/6/2025	9:00 PM	10:00 PM	45.4	63.3	36.9	51.1	48.4	45.2	44	41.9
10/6/2025	10:00 PM	11:00 PM	47.8	76.3	35.5	51.2	45.3	42.8	41.9	39.9
10/6/2025	11:00 PM	12:00 AM	41.1	54.9	34	45.3	43.1	42.4	40.5	37.1
10/7/2025	12:00 AM	1:00 AM	40.5	62	33	47.4	43	40.6	38.8	35.7
10/7/2025	1:00 AM	2:00 AM	39	55.3	32.8	45	42.2	39.3	37.6	34.9
10/7/2025	2:00 AM	3:00 AM	38.8	50.7	33.4	43	41	39.8	38.2	35.3
10/7/2025	3:00 AM	4:00 AM	39.5	58.7	33.8	44.9	41.4	40	38.4	36
10/7/2025	4:00 AM	5:00 AM	41.4	49.7	35.9	44.5	43.4	42.2	41	38.6
10/7/2025	5:00 AM	6:00 AM	43.5	53.3	38.1	45.8	45.1	44.1	43.2	41.4
10/7/2025	6:00 AM	7:00 AM	47.9	68.4	41.2	54.4	50.4	47.7	46.7	43.8
10/7/2025	7:00 AM	8:00 AM	48.6	56.1	43.8	50.3	49.9	49.2	48.5	47.3
10/7/2025	8:00 AM	9:00 AM	46.1	62	41.1	49.3	48.1	47.2	45.8	43.6
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10/7/2025	11:00 AM	12:00 PM	39.7	54.3	34.5	43.6	42.3	40.5	38.2	36.6
10/7/2025	12:00 PM	1:00 PM	39.4	53.7	33.8	43.3	41.7	40.2	38.4	36.4
10/7/2025	1:00 PM	2:00 PM	40	62	33.3	45.8	42.4	40.5	37.7	36.2
10/7/2025	2:00 PM	3:00 PM	39.9	55.9	32.4	46.8	43.4	38.9	37.7	35.8
10/7/2025	3:00 PM	4:00 PM	41.3	59.3	33	48.4	43.8	41.3	39	36.2
							DNL	50	CNEL	50.4

24-Hour Continuous Noise Measurement Datasheet - Cont. - LT2

Project Name:	Gantner Elementary Noise	Site Topo:	flat	Day:	2 of 2
Site Address/Location:	Vine Street & Westgate Drive	Meteorological Cond.:		Noise Source(s) w/ Distance:	
Site Id:	LT2	Ground Type:	soft		Westgate Dr. @ 50 ft

Table 2: Baseline Noise Measurement Summary

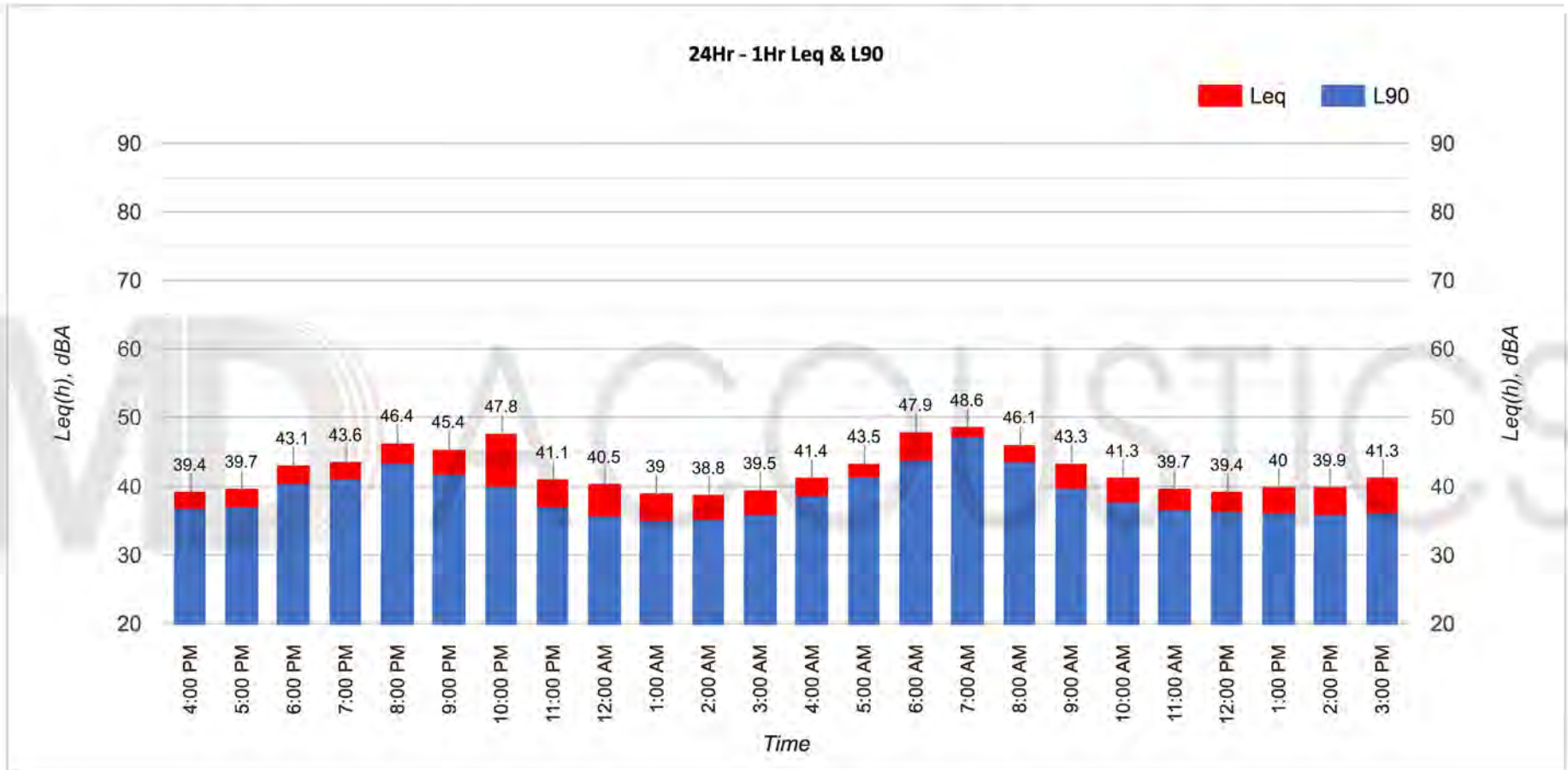
Date	Start	Stop	Leq	Lmax	Lmin	L2	L8	L25	L50	L90
10/6/2025	4:00 PM	5:00 PM	51.8	73.8	32.6	61.7	56.7	50	45.1	37.3
10/6/2025	5:00 PM	6:00 PM	48.1	71.7	32	55.9	51.4	48.8	44.9	37.8
10/6/2025	6:00 PM	7:00 PM	48.6	73.2	34.1	56	53.3	48.9	45.2	38.4
10/6/2025	7:00 PM	8:00 PM	45.6	64.3	34.7	50.9	50	46.9	41.9	39.5
10/6/2025	8:00 PM	9:00 PM	46.3	67.3	37.7	53	50.7	46.7	43.7	40.9
10/6/2025	9:00 PM	10:00 PM	46.9	69.4	36.2	54.8	51.5	45.3	41.6	40.1
10/6/2025	10:00 PM	11:00 PM	45.2	66.2	35.1	54.8	47.6	42.1	40.5	38.1
10/6/2025	11:00 PM	12:00 AM	42.5	61	33.6	48.5	45.8	42.3	40.6	37
10/7/2025	12:00 AM	1:00 AM	40.6	59.8	32.9	47.9	43.7	40.4	38.6	35.7
10/7/2025	1:00 AM	2:00 AM	38.6	55.5	33.1	43.9	41.3	38.9	37.1	35.2
10/7/2025	2:00 AM	3:00 AM	39	49.5	33.2	43.6	41.5	40	37.7	35.9
10/7/2025	3:00 AM	4:00 AM	39.1	51.7	33.8	43.5	41.4	39.7	38.4	36.3
10/7/2025	4:00 AM	5:00 AM	42.2	60.7	36.5	45.9	43.3	42.6	41.2	39.3
10/7/2025	5:00 AM	6:00 AM	45	63.9	38.9	51.4	48	44.4	43.5	41.7
10/7/2025	6:00 AM	7:00 AM	50.2	72	41.3	55.6	52.8	49.8	48	44.2
10/7/2025	7:00 AM	8:00 AM	51.3	65.4	44.5	55.9	54.4	51.8	50.4	47.9
10/7/2025	8:00 AM	9:00 AM	54.7	83.5	41.2	61.5	54.1	50.7	49.4	45.1
10/7/2025	9:00 AM	10:00 AM	49.1	68.5	36.8	54.9	53.2	50.2	46.7	43
10/7/2025	10:00 AM	11:00 AM	47.9	72.5	34.9	54.2	50.9	47	43.8	39.2
10/7/2025	11:00 AM	12:00 PM	51	74.6	33	60.1	53.9	47.5	42.1	36.2
10/7/2025	12:00 PM	1:00 PM	56.7	84.7	32.7	62.1	58.9	53.3	47.4	38.3
10/7/2025	1:00 PM	2:00 PM	53	74.1	32.3	61.7	59.4	51.2	44.3	36
10/7/2025	2:00 PM	3:00 PM	52.3	75.5	31.7	60.6	58.5	49.6	46.9	38.9
10/7/2025	3:00 PM	4:00 PM	51.6	76.9	32.2	61.3	57.1	47.6	45.1	35.7
							DNL	52.7	CNEL	53

24-Hour Continuous Noise Measurement Datasheet - Cont. - LT1

Project Name: Gantner Elementary Noise
Site Address/Location: Vine Street & Westgate Drive
Site Id: LT1

Site Topo: flat
Meteorological Cond.:
Ground Type: soft

Day: 1 of 2
Noise Source(s) w/ Distance:
 Westgate Dr. @ 579 ft

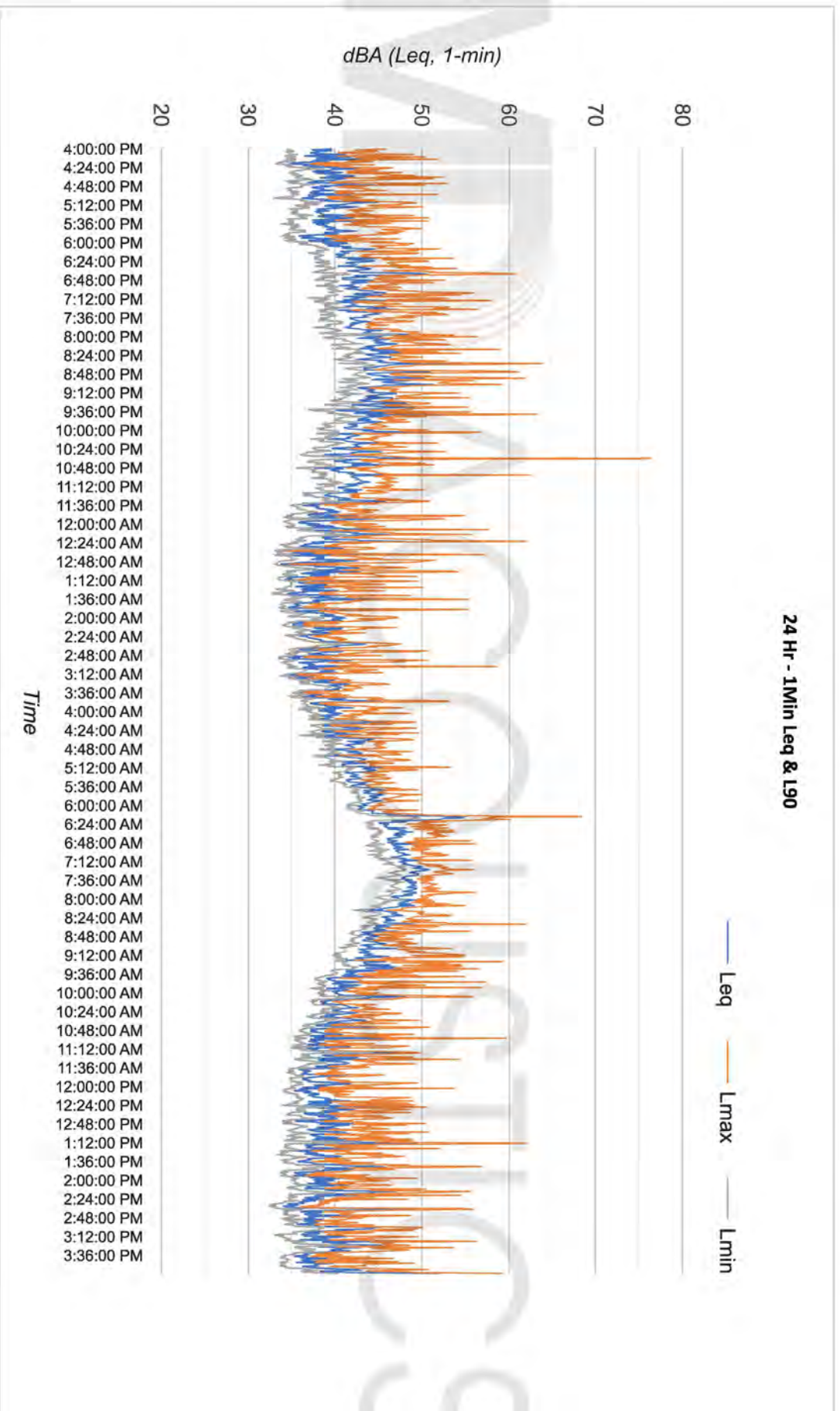


24-Hour Continuous Noise Measurement Datasheet - Cont. - LT1

Project Name: Gantner Elementary Noise
Site Address/Location: Vine Street & Westgate Drive
Site Id: LT1

Site Topo: flat
Meteorological Cond.:
Ground Type: soft

Day: 1 of 2
Noise Source(s) w/ Distance:
Westgate Dr. @ 579 ft

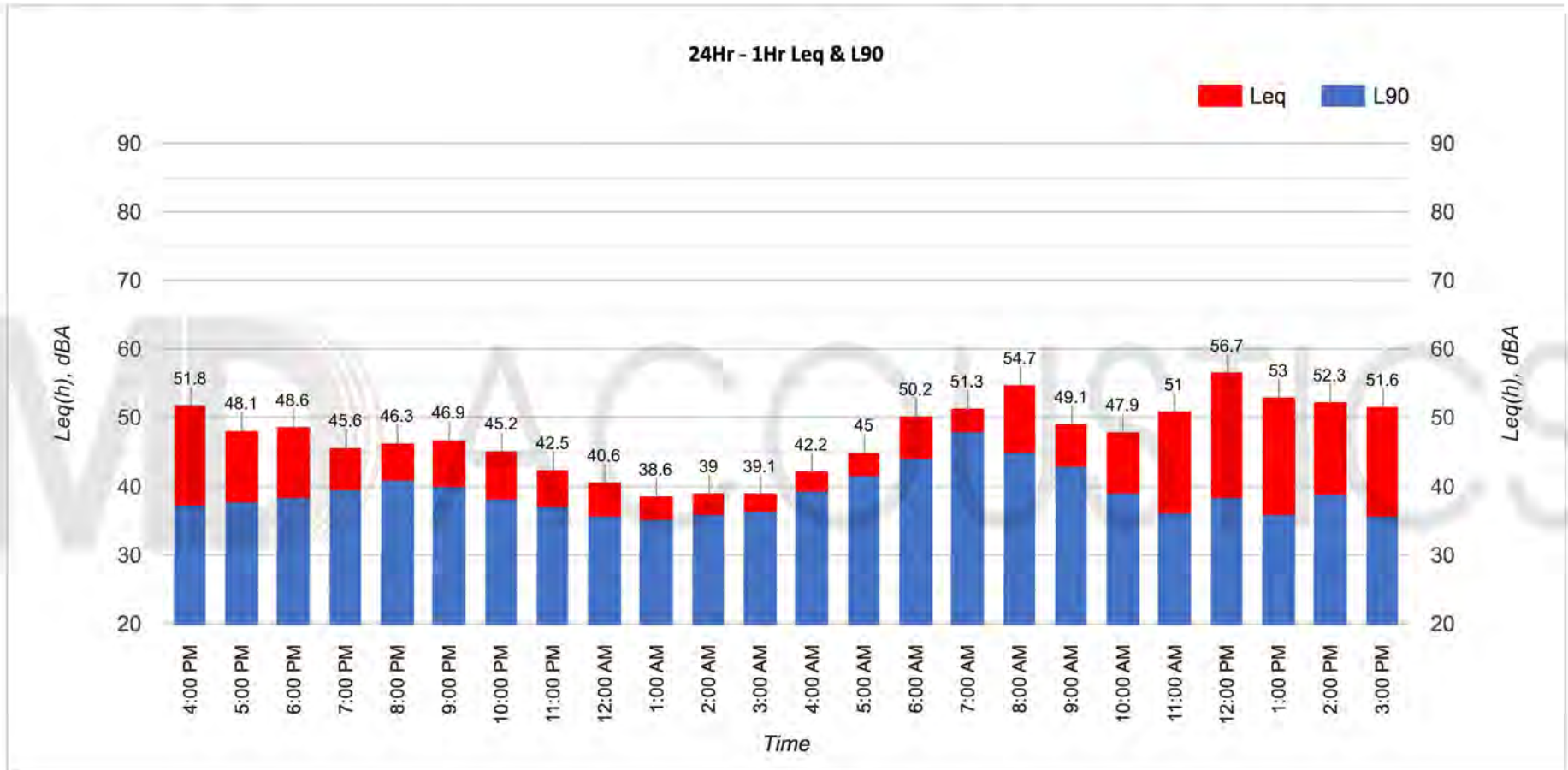


24-Hour Continuous Noise Measurement Datasheet - Cont. - LT2

Project Name: Gantner Elementary Noise
 Site Address/Location: Vine Street & Westgate Drive
 Site Id: LT2

Site Topo: flat
 Meteorological Cond.:
 Ground Type: soft

Day: 1 of 2
 Noise Source(s) w/ Distance:
 Westgate Dr. @ 50 ft

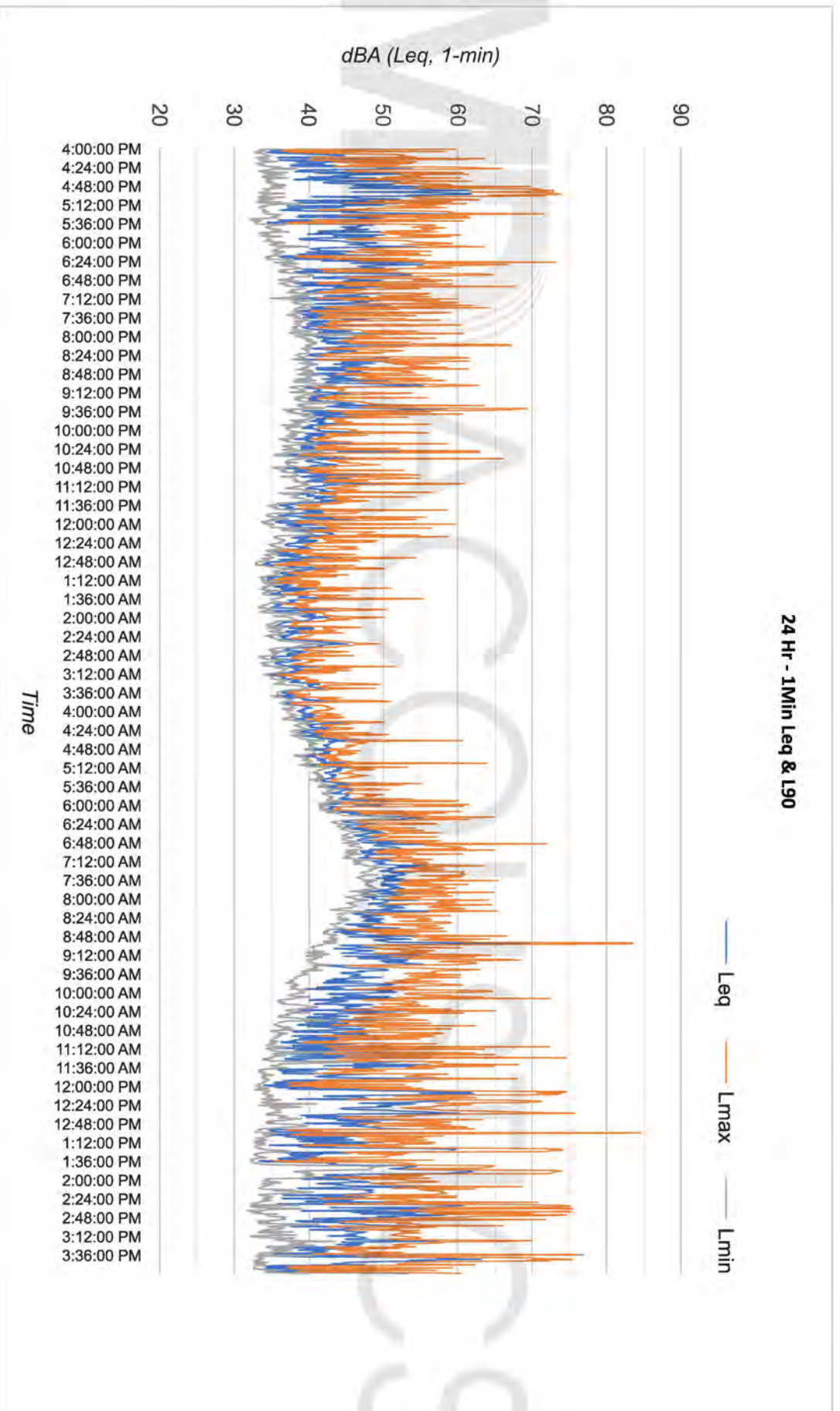


24-Hour Continuous Noise Measurement Datasheet - Cont. - LT2

Project Name: Gantner Elementary Noise
Site Address/Location: Vine Street & Westgate Drive
Site Id: LT2

Site Topo: flat
Meteorological Cond.:
Ground Type: soft

Day: 1 of 2
Noise Source(s) w/ Distance:
Westgate Dr. @ 50 ft



Appendix B:
SoundPLAN Noise Modeling Data

Gantner Elementary Noise Contribution spectra - 001 - Gantner Elementary - CNEL: Outdoor SP

23

Source	Time slice	Sum	25Hz	31.5Hz	40Hz	50Hz	63Hz	80Hz	100Hz	125Hz	160Hz	200Hz	250Hz	315Hz	400Hz	500Hz	630Hz	800Hz	1kHz	1.25kHz	1.6kHz	2kHz	2.5kHz	3.15kHz	4kHz	5kHz	6.3kHz	8kHz	10kHz	12.5kHz	16kHz	
		dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	
HVAC	Ldn	27.7	-25.7	-19.6	-15.6	-2.7	2.3	-3.7	6.0	8.0	6.9	8.2	8.3	10.2	11.7	12.8	16.7	18.5	14.5	18.7	19.9	17.6	18.2	14.3	14.1	10.2	7.3	-4.1	-18.4	-33.4	-54.7	
HVAC	Ldn	29.0	-25.2	-19.1	-15.1	-2.1	2.8	-3.2	6.6	8.5	7.5	8.8	8.9	10.9	12.4	13.5	17.6	19.5	15.6	19.8	21.0	19.1	20.2	17.2	16.7	12.4	8.6	-2.5	-16.3	-30.6	-50.9	
HVAC	Ldn	33.4	-23.6	-17.5	-13.4	-0.2	5.0	-0.7	9.5	12.0	11.9	14.6	14.6	16.6	18.1	19.0	22.9	24.7	22.6	24.5	25.4	23.0	23.4	19.3	18.9	14.5	10.9	0.5	-12.3	-25.1	-43.4	
HVAC	Ldn	33.8	-23.3	-17.2	-13.0	0.2	5.4	-0.2	10.1	12.8	12.9	14.9	14.9	16.9	18.3	19.3	23.2	24.9	20.8	24.9	26.0	23.6	24.0	20.0	19.5	15.3	11.7	1.5	-11.1	-23.6	-41.5	
HVAC	Ldn	32.1	-24.7	-18.6	-14.6	-1.6	3.4	-2.5	7.2	9.2	8.3	9.7	9.9	12.0	13.8	15.2	19.6	22.1	19.3	23.8	25.4	22.9	23.2	19.1	18.4	13.7	9.7	-1.2	-14.8	-28.5	-48.0	
HVAC	Ldn	23.9	-24.9	-19.0	-15.2	-2.4	2.4	-3.7	5.7	7.5	6.3	7.5	7.4	9.2	10.6	11.4	15.1	16.7	12.3	13.9	14.4	11.6	11.4	6.7	5.4	-0.1	-5.3	-17.7	-33.3	-49.9	-73.0	
HVAC	Ldn	24.9	-26.4	-20.4	-16.4	-3.4	1.6	-4.4	5.2	7.1	6.1	7.4	7.4	9.3	10.8	11.8	15.7	17.4	13.2	15.0	15.9	13.3	13.6	9.3	8.4	3.5	-1.1	-12.9	-27.8	-43.7	-66.1	
HVAC	Ldn	24.3	-26.9	-20.9	-16.9	-3.9	1.1	-4.9	4.7	6.6	5.5	6.8	6.8	8.8	10.3	11.2	15.1	16.9	12.7	14.5	15.3	12.8	13.0	8.6	7.6	2.5	-2.3	-14.6	-30.1	-46.7	-70.3	
HVAC	Ldn	20.4	-24.9	-19.1	-15.4	-2.6	2.1	-4.2	5.2	6.9	5.4	6.3	5.9	7.4	8.3	8.7	12.0	13.0	8.2	9.2	9.3	5.9	5.4	0.3	-1.4	-7.1	-12.3	-24.7	-40.0	-56.0	-78.3	
HVAC	Ldn	20.9	-26.4	-20.4	-16.5	-3.5	1.4	-4.7	4.8	6.5	5.2	6.2	5.9	7.5	8.6	9.1	12.5	13.7	8.9	10.0	10.1	6.8	6.3	1.2	-0.6	-6.4	-11.8	-24.5	-40.4	-57.1	-80.4	
HVAC	Ldn	23.0	-26.9	-20.9	-16.9	-3.9	1.0	-5.0	4.5	6.4	5.3	6.5	6.5	8.3	9.7	10.5	14.2	15.7	11.3	12.8	13.2	10.3	11.9	7.1	5.4	-0.5	-6.4	-19.8	-36.5	-54.2	-78.6	
HVAC	Ldn	22.5	-28.7	-22.7	-18.7	-5.7	-0.7	-6.7	2.9	4.8	3.8	5.1	5.1	7.0	8.5	9.5	13.4	15.1	11.0	12.8	13.6	11.0	11.1	6.6	5.4	-0.2	-5.8	-19.2	-36.4	-55.3	-82.4	
HVAC	Ldn	26.8	-28.5	-22.4	-18.4	-5.3	-0.2	-6.1	3.7	5.9	5.0	6.7	7.2	9.9	12.5	14.2	18.1	19.8	15.6	17.3	18.1	15.4	15.4	10.8	9.3	3.5	-2.4	-16.2	-34.1	-54.0	-81.9	
HVAC	Ldn	27.1	-28.1	-22.0	-17.9	-4.7	0.5	-5.1	5.0	7.6	7.5	10.0	10.0	11.9	13.3	14.3	18.1	19.9	15.7	17.4	18.2	15.5	15.5	10.9	9.5	3.7	-2.1	-15.9	-33.6	-53.3	-80.9	
HVAC	Ldn	18.9	-28.9	-22.9	-18.9	-6.0	-1.1	-7.2	2.3	4.1	2.9	4.0	3.8	5.4	6.5	7.1	10.5	11.8	7.0	8.2	8.3	4.9	4.1	-1.3	-3.7	-10.5	-17.5	-32.5	-51.7	-73.2	-94.6	
HVAC	Ldn	21.9	-27.0	-21.1	-17.3	-4.5	0.3	-5.9	3.5	5.3	4.1	5.3	5.2	6.9	8.3	9.1	12.8	14.4	10.0	11.5	12.0	9.0	12.0	6.9	4.9	-1.7	-8.7	-23.9	-43.4	-65.0	-94.6	
HVAC	Ldn	22.8	-26.1	-20.2	-16.3	-3.4	1.4	-4.8	4.6	6.4	5.1	6.3	6.1	7.9	9.2	10.0	13.8	15.4	11.2	12.8	13.5	10.8	10.7	6.1	4.6	-1.3	-7.3	-21.3	-39.3	-59.5	-87.7	
Playground	Ldn	37.6		-51.4	-41.6	-32.6	-25.1	-17.9	-13.8	-7.7	-1.0	2.7	7.4	11.4	16.7	20.5	22.8	27.4	30.2	30.8	29.8	28.5	26.4	23.9	21.3	17.0	9.8	1.9	-7.3			
Playground	Ldn	39.7		-48.8	-39.0	-30.0	-22.4	-15.2	-11.0	-4.8	1.8	5.8	10.4	14.4	19.8	23.1	25.1	29.9	31.9	33.0	31.9	30.5	28.4	25.8	23.3	19.4	12.9	6.1	-1.6			
Playground	Ldn	25.6		-63.8	-54.0	-45.0	-37.4	-30.2	-26.6	-20.4	-13.7	-10.4	-5.7	-1.7	3.0	6.4	8.5	16.3	18.3	18.8	18.2	16.6	14.2	11.3	8.5	2.6	-7.0	-18.6	-33.2			
Playground	Ldn	13.4		-62.7	-53.4	-45.0	-38.0	-31.5	-28.6	-23.2	-17.3	-14.8	-11.0	-7.9	-3.9	-0.7	1.3	5.5	7.1	6.5	4.7	2.2	-1.3	-5.9	-10.8	-18.1	-29.0	-41.8	-57.6			
Soccer Game	Ldn	56.7							35.3	36.6	36.9	36.3	36.8	38.7	39.7	40.6	43.4	47.2	46.8	46.0	49.0	43.4	45.4	49.3	44.1	35.1	32.4	28.3	25.3			
TetherBall	Ldn	34.8														34.8																
TetherBall	Ldn	37.3														37.3																
TetherBall	Ldn	31.6														31.6																
TetherBall	Ldn	30.7														30.7																
TetherBall	Ldn	31.2														31.2																
TetherBall	Ldn	31.3														31.3																
TetherBall	Ldn	31.4														31.4																
TetherBall	Ldn	31.5														31.5																
TetherBall	Ldn	31.8														31.8																
TetherBall	Ldn	43.3														43.3																
TetherBall	Ldn	47.1														47.1																
TetherBall	Ldn	41.3														41.3																
TetherBall	Ldn	37.1														37.1																

Gantner Elementary Noise Contribution spectra - 001 - Gantner Elementary - CNEL: Outdoor SP

23

Source	Time slice	Sum	25Hz	31.5Hz	40Hz	50Hz	63Hz	80Hz	100Hz	125Hz	160Hz	200Hz	250Hz	315Hz	400Hz	500Hz	630Hz	800Hz	1kHz	1.25kHz	1.6kHz	2kHz	2.5kHz	3.15kHz	4kHz	5kHz	6.3kHz	8kHz	10kHz	12.5kHz	16kHz
		dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
TetherBall	Ldn	38.8														38.8															
TetherBall	Ldn	40.8														40.8															
Receiver R2		FI G	d(B)A Ldn 53.2 d(B)A																												
Auto Parking	Ldn	27.9					18.1			26.5			14.0			16.1			14.9			11.9			1.7			-23.5			-84.3
Auto Parking	Ldn	29.4					18.8			27.5			15.9			18.7			17.9			16.3			6.0			-21.1			-89.1
BasketBall	Ldn	39.0														39.0															
BasketBall	Ldn	44.3														44.3															
BasketBall	Ldn	20.0														20.0															
BasketBall	Ldn	19.3														19.3															
Car Lane	Ldn	21.1	7.0	-10.4	-4.8	9.7	10.1	11.5	7.5	10.7	6.8	9.4	3.6	4.6	7.7	6.7	9.6	8.8	7.7	7.6	5.5	7.3	6.6	1.3	-3.8	-10.9	-19.7	-29.3	-43.0	-59.6	-80.8
Car Lane	Ldn	26.7	8.4	-8.9	-3.3	11.3	11.9	13.4	9.5	12.9	9.3	12.3	6.9	8.3	12.0	11.6	15.2	15.1	15.1	15.9	14.3	17.1	17.9	13.7	9.8	3.4	-5.2	-15.4	-30.4	-49.1	-73.1
HVAC	Ldn	38.4	-18.1	-12.1	-8.0	5.1	10.1	4.2	14.3	16.5	15.7	17.5	18.1	20.9	23.5	25.0	29.0	30.6	26.5	28.4	29.4	27.2	27.9	24.4	24.7	21.5	19.7	12.0	3.1	-4.3	-15.6
HVAC	Ldn	34.4	-19.5	-13.4	-9.4	3.6	8.6	2.6	12.5	14.5	13.5	14.9	15.0	17.0	18.4	19.5	23.6	25.4	21.6	23.8	25.2	23.5	25.1	23.0	23.2	19.9	17.8	9.7	0.2	-8.0	-20.3
HVAC	Ldn	28.2	-19.2	-13.3	-9.4	3.6	8.4	2.3	12.0	13.7	12.4	13.6	13.3	14.8	15.8	16.3	19.7	20.7	15.9	17.2	17.4	14.3	14.2	9.8	9.1	5.0	2.1	-6.8	-17.0	-25.9	-38.4
HVAC	Ldn	34.1	-16.1	-10.2	-6.4	6.4	11.2	5.0	14.7	16.5	15.2	16.4	16.2	17.9	18.9	21.8	25.4	26.8	22.4	24.0	24.6	22.0	22.4	18.5	18.3	14.7	12.5	4.3	-5.2	-13.2	-25.0
HVAC	Ldn	30.9	-20.6	-14.6	-10.6	2.4	7.3	1.2	11.0	12.9	11.7	12.9	12.8	14.6	15.8	16.5	20.1	24.0	19.7	21.3	22.0	19.4	19.7	15.7	15.4	11.5	8.7	-0.4	-11.2	-21.1	-35.7
HVAC	Ldn	30.5	-21.3	-15.3	-11.3	1.7	6.6	0.6	10.5	12.4	11.4	12.7	12.7	14.7	16.1	17.1	21.0	22.7	18.6	20.5	21.5	19.2	19.8	16.0	16.0	12.4	9.8	1.0	-9.5	-19.2	-33.5
HVAC	Ldn	29.9	-21.7	-15.7	-11.7	1.3	6.3	0.2	10.0	12.0	10.9	12.2	12.2	14.1	15.5	16.4	20.2	21.8	17.6	20.6	21.4	18.9	19.2	15.1	14.6	10.4	7.1	-2.7	-14.3	-25.2	-40.8
HVAC	Ldn	25.7	-22.6	-16.6	-12.6	0.3	5.2	-0.9	8.8	10.6	9.4	10.5	10.3	12.0	13.1	13.7	17.2	18.4	13.8	15.1	15.3	12.3	12.1	7.5	6.5	1.8	-2.0	-12.3	-24.5	-36.2	-52.8
HVAC	Ldn	28.7	-21.6	-15.6	-11.6	1.3	6.2	0.1	9.8	11.7	10.5	11.7	11.5	13.2	14.3	15.0	18.5	22.1	17.6	19.1	19.5	16.6	16.6	12.2	11.3	6.8	3.3	-6.6	-18.3	-29.4	-45.2
HVAC	Ldn	45.1	-9.2	-3.1	0.9	13.9	18.8	12.9	23.1	25.0	24.0	25.8	25.9	27.9	29.1	30.2	34.3	35.7	31.8	34.0	35.3	33.6	35.1	32.7	34.7	32.9	32.2	26.2	19.9	16.0	9.4
HVAC	Ldn	29.1	-18.2	-12.2	-8.3	4.6	9.4	3.3	13.1	14.8	13.5	14.6	14.3	15.9	16.8	17.3	20.7	21.6	16.9	18.1	18.3	15.3	15.2	10.8	10.2	6.2	3.5	-5.0	-14.7	-22.9	-34.2
HVAC	Ldn	33.5	-15.5	-9.5	-5.6	7.4	12.3	6.2	16.1	18.0	16.8	18.1	18.0	19.7	20.7	21.3	24.9	26.0	21.4	22.8	23.2	20.3	20.4	16.3	16.0	12.3	10.1	2.3	-6.4	-13.3	-23.4
HVAC	Ldn	44.2	-12.6	-6.5	-2.5	10.6	15.6	9.7	19.9	22.0	21.1	22.9	23.3	25.7	27.5	29.4	34.7	36.3	32.3	34.2	35.2	33.1	34.0	30.7	31.3	28.7	27.8	21.4	14.3	9.5	1.6
HVAC	Ldn	46.4	-8.1	-2.1	1.9	14.9	19.9	13.9	24.2	26.1	25.1	26.9	27.0	29.0	30.2	31.3	35.4	36.8	33.0	35.2	36.5	34.9	36.4	34.2	36.4	34.0	33.5	27.6	21.4	17.7	11.5
HVAC	Ldn	41.2	-15.5	-9.4	-5.4	7.7	12.8	6.9	17.1	19.3	18.6	20.5	21.2	24.2	26.8	27.8	31.7	33.2	29.2	31.1	32.1	30.0	30.8	27.4	27.8	25.0	23.6	16.6	8.7	2.7	-6.7
HVAC	Ldn	28.2	-16.3	-10.6	-7.0	5.7	10.3	3.9	13.4	14.9	13.3	14.3	13.8	15.2	15.9	16.3	19.5	20.4	15.6	16.7	16.9	13.8	13.6	9.2	8.5	4.5	1.7	-7.0	-16.7	-24.2	-35.5
HVAC	Ldn	30.9	-15.4	-9.4	-5.5	7.3	12.1	5.9	15.6	17.2	15.8	16.9	16.5	18.0	18.7	19.1	22.4	23.3	18.5	19.6	19.7	16.7	16.5	12.1	11.5	7.4	4.7	-3.8	-13.6	-21.2	-32.6
HVAC	Ldn	36.1	-13.3	-7.3	-3.4	9.5	14.3	8.2	17.9	19.6	18.3	19.5	19.2	20.7	21.6	22.1	27.6	28.8	24.3	25.9	26.5	23.9	24.3	20.4	20.3	16.7	14.3	6.0	-3.8	-11.9	-23.4
HVAC	Ldn	18.8	-26.9	-21.0	-17.1	-4.2	0.6	-5.7	3.6	5.1	3.4	4.1	3.4	4.6	5.2	5.4	8.5	9.4	8.6	9.7	9.7	6.4	5.7	0.5	-1.4	-7.5	-13.3	-26.5	-43.0	-60.8	-85.4
HVAC	Ldn	15.8	-27.7	-21.7	-17.9	-5.1	-0.4	-6.7	2.4	3.8	2.1	2.8	2.0	3.2	3.9	4.1	7.1	8.0	3.0	3.8	3.7	0.2	-0.6	-6.0	-8.1	-14.3	-20.4	-34.0	-51.1	-69.6	-94.7
HVAC	Ldn	17.5	-25.1	-19.3	-15.5	-2.8	1.8	-4.6	4.6	5.9	4.1	4.6	3.8	4.9	5.5	5.6	8.6	9.4	4.4	5.3	5.2	1.8	1.2	-3.9	-5.6	-11.1	-16.2	-28.2	-42.9	-57.7	-78.0
HVAC	Ldn	18.6	-28.3	-22.3	-18.3	-5.4	-0.5	-6.7	2.8	4.5	3.1	4.0	3.5	4.9	5.6	5.8	9.0	9.9	8.1	9.1	9.1	5.6	4.9	-0.6	-2.8	-9.4	-16.1	-30.6	-48.9	-69.2	-97.2
HVAC	Ldn	15.4	-28.6	-22.7	-18.8	-5.9	-1.2	-7.4	1.8	3.2	1.6	2.3	1.6	2.8	3.6	3.7	6.8	7.7	2.7	3.5	3.3	-0.2	-1.1	-6.6	-9.0	-15.7	-22.4	-37.0	-55.6	-76.1	

Gantner Elementary Noise Contribution spectra - 001 - Gantner Elementary - CNEL: Outdoor SP

23

Source	Time slice	Sum	25Hz	31.5Hz	40Hz	50Hz	63Hz	80Hz	100Hz	125Hz	160Hz	200Hz	250Hz	315Hz	400Hz	500Hz	630Hz	800Hz	1kHz	1.25kHz	1.6kHz	2kHz	2.5kHz	3.15kHz	4kHz	5kHz	6.3kHz	8kHz	10kHz	12.5kHz	16kHz	
		dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	
HVAC	Ldn	15.6	-28.2	-22.2	-18.3	-5.5	-0.8	-7.1	2.1	3.5	1.9	2.5	1.8	3.0	3.7	3.9	7.0	7.8	2.8	3.7	3.5	0.0	-0.9	-6.3	-8.5	-15.0	-21.4	-35.5	-53.3	-72.8	-99.8	
HVAC	Ldn	16.3	-26.2	-20.4	-16.7	-4.0	0.6	-5.8	3.3	4.6	2.8	3.4	2.6	3.7	4.3	4.4	7.4	8.3	3.2	4.1	4.0	0.5	-0.2	-5.4	-7.3	-13.3	-18.8	-31.7	-47.6	-64.1	-86.6	
HVAC	Ldn	16.6	-26.2	-20.4	-16.6	-3.9	0.8	-5.6	3.7	5.0	3.3	3.8	3.0	4.1	4.7	4.8	7.8	8.6	3.5	4.4	4.3	0.8	0.1	-5.1	-7.0	-12.9	-18.5	-31.3	-47.3	-64.1	-86.6	
HVAC	Ldn	17.4	-25.6	-19.8	-16.0	-3.2	1.4	-4.9	4.4	5.7	4.0	4.5	3.7	4.8	5.4	5.4	8.5	9.3	4.2	5.1	5.0	1.6	0.9	-4.2	-6.0	-11.7	-16.9	-29.3	-44.5	-60.3	-81.5	
HVAC	Ldn	16.7	-25.1	-19.3	-15.7	-3.1	1.4	-5.1	3.9	5.1	3.3	3.8	2.9	4.0	4.7	4.8	7.8	8.6	3.5	4.4	4.3	0.9	0.2	-4.9	-6.6	-12.3	-17.5	-29.7	-44.8	-59.5	-80.5	
HVAC	Ldn	17.7	-24.6	-18.8	-15.1	-2.5	2.1	-4.4	4.8	6.0	4.2	4.7	3.9	5.1	5.6	5.8	8.8	9.6	4.6	5.5	5.4	2.0	1.4	-3.6	-5.2	-10.6	-15.4	-27.2	-41.5	-55.3	-74.8	
HVAC	Ldn	16.5	-25.5	-19.8	-16.1	-3.4	1.1	-5.4	3.7	4.9	3.1	3.6	2.8	3.9	4.5	4.6	7.6	8.5	3.4	4.3	4.2	0.7	0.0	-5.2	-6.9	-12.8	-18.1	-30.7	-46.2	-61.7	-83.5	
HVAC	Ldn	25.9	-24.3	-18.3	-14.3	-1.3	3.6	-2.4	7.3	9.2	8.0	9.2	9.2	11.0	12.5	13.3	17.1	18.6	14.2	15.8	16.4	13.6	13.5	9.1	8.0	3.1	-1.1	-12.1	-25.7	-39.3	-58.5	
HVAC	Ldn	23.4	-24.9	-18.9	-15.0	-2.0	2.9	-3.2	6.4	8.2	7.0	8.1	7.9	9.6	10.8	11.4	14.9	16.2	11.5	12.8	13.0	9.9	9.5	4.7	3.3	-2.0	-6.6	-18.2	-32.4	-46.8	-67.1	
HVAC	Ldn	24.8	-25.2	-19.2	-15.3	-2.3	2.6	-3.5	6.1	8.0	6.8	7.9	7.8	9.5	10.8	11.5	15.0	16.4	11.8	16.1	16.6	13.7	13.6	9.0	7.8	2.6	-2.2	-14.0	-28.6	-43.9	-65.3	
HVAC	Ldn	29.5	-22.2	-16.2	-12.2	0.8	5.7	-0.3	9.5	11.5	10.4	11.7	11.8	13.7	15.1	16.1	20.1	21.8	17.7	19.5	20.5	18.1	18.7	14.9	14.7	10.9	8.1	-1.1	-12.3	-22.8	-38.2	
HVAC	Ldn	28.0	-23.7	-17.7	-13.7	-0.7	4.2	-1.8	7.9	9.8	8.7	10.0	10.0	11.9	13.3	14.2	18.0	19.6	15.4	19.1	19.8	17.2	17.5	13.2	12.5	7.9	4.1	-6.6	-19.7	-32.7	-51.3	
HVAC	Ldn	27.4	-24.5	-18.5	-14.5	-1.5	3.5	-2.5	7.1	9.1	8.0	9.2	9.3	11.2	12.6	13.5	17.4	19.1	14.8	18.5	19.2	16.7	16.9	12.7	11.9	7.2	3.1	-8.0	-21.6	-35.5	-55.2	
HVAC	Ldn	22.7	-27.4	-21.3	-17.4	-4.4	0.6	-5.5	4.2	6.1	4.9	6.2	6.1	8.0	9.3	10.2	13.9	15.5	11.1	12.7	13.2	10.2	10.0	5.2	3.5	-2.3	-8.0	-21.3	-38.1	-56.2	-81.6	
HVAC	Ldn	18.8	-27.8	-21.8	-17.8	-4.9	0.0	-6.1	3.5	5.3	4.1	5.1	4.8	6.3	7.2	7.4	10.5	11.4	6.3	7.1	7.0	3.4	2.6	-2.8	-4.9	-11.3	-17.6	-31.4	-48.9	-68.0	-94.4	
HVAC	Ldn	17.4	-28.0	-22.1	-18.1	-5.2	-0.3	-6.5	3.0	4.7	3.3	4.2	3.6	4.9	5.6	5.8	8.8	9.7	4.7	5.6	5.5	1.9	1.1	-4.3	-6.5	-13.0	-19.3	-33.4	-51.2	-70.7	-97.6	
HVAC	Ldn	27.4	-23.8	-17.7	-13.8	-0.8	4.2	-1.8	7.9	9.8	8.7	10.0	10.0	11.9	13.4	14.3	18.2	20.0	15.8	17.6	18.4	15.8	16.0	11.7	10.7	5.5	0.7	-11.5	-26.9	-43.5	-66.9	
HVAC	Ldn	24.3	-24.8	-18.9	-15.1	-2.3	2.5	-3.7	5.8	7.6	6.3	7.5	7.4	9.2	10.5	11.4	15.2	16.9	12.6	14.3	15.0	12.3	12.4	7.9	6.7	1.4	-3.8	-16.3	-32.2	-49.4	-73.5	
HVAC	Ldn	24.4	-27.1	-21.1	-17.1	-4.1	0.9	-5.1	4.5	6.4	5.3	6.6	6.6	8.5	9.9	10.8	14.7	16.4	12.1	13.8	16.5	13.8	13.8	9.2	7.9	2.4	-2.9	-15.8	-32.2	-50.0	-74.8	
Playground	Ldn	16.0		-57.9	-48.6	-40.2	-33.3	-26.9	-23.9	-18.6	-12.8	-10.3	-6.7	-3.7	0.6	3.2	4.4	7.7	8.7	9.1	7.4	5.3	1.9	-1.8	-5.8	-11.3	-19.5	-28.3	-38.8			
Playground	Ldn	17.3		-56.6	-47.4	-39.2	-32.4	-26.1	-23.1	-17.8	-12.1	-9.5	-5.8	-2.8	1.6	4.0	5.0	8.1	9.3	9.4	10.3	7.9	4.5	0.5	-3.2	-8.7	-16.9	-25.8	-36.0			
Playground	Ldn	10.4		-65.6	-56.4	-48.2	-41.4	-35.0	-32.2	-26.8	-21.0	-18.6	-14.8	-11.8	-8.1	-5.7	-4.4	1.1	3.5	3.3	3.3	1.4	-2.3	-6.6	-11.2	-17.9	-27.8	-39.3	-53.2			
Playground	Ldn	27.4		-56.7	-47.1	-38.2	-30.8	-23.9	-20.5	-14.6	-8.3	-5.4	-1.1	2.5	6.8	11.0	12.9	18.2	20.2	20.4	19.9	18.3	15.6	12.3	8.9	3.6	-5.4	-15.9	-28.7			
Soccer Game	Ldn	35.5							19.8	20.6	20.3	17.7	17.7	19.1	19.4	19.9	22.1	26.8	26.0	24.7	27.7	21.9	23.2	26.2	19.9	9.2	4.3	-2.9	-10.6			
TetherBall	Ldn	39.5														39.5																
TetherBall	Ldn	37.7														37.7																
TetherBall	Ldn	17.2														17.2																
TetherBall	Ldn	16.5														16.5																
TetherBall	Ldn	16.8														16.8																
TetherBall	Ldn	17.5														17.5																
TetherBall	Ldn	16.7														16.7																
TetherBall	Ldn	18.8														18.8																
TetherBall	Ldn	17.1														17.1																
TetherBall	Ldn	20.8														20.8																
TetherBall	Ldn	33.9														33.9																

Gantner Elementary Noise Contribution spectra - 001 - Gantner Elementary - CNEL: Outdoor SP

23

Source	Time slice	Sum	25Hz	31.5Hz	40Hz	50Hz	63Hz	80Hz	100Hz	125Hz	160Hz	200Hz	250Hz	315Hz	400Hz	500Hz	630Hz	800Hz	1kHz	1.25kHz	1.6kHz	2kHz	2.5kHz	3.15kHz	4kHz	5kHz	6.3kHz	8kHz	10kHz	12.5kHz	16kHz	
		dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	
TetherBall	Ldn	35.6														35.6																
TetherBall	Ldn	18.1														18.1																
TetherBall	Ldn	18.3														18.3																
TetherBall	Ldn	18.7														18.7																
Receiver R3 FI G		dB(A) Ldn 49.5 dB(A)																														
Auto Parking	Ldn	29.8					18.7			27.8			16.3			19.4			18.7			18.2			9.1			-17.6			-87.7	
Auto Parking	Ldn	36.9					23.7			33.7			23.1			27.3			28.3			28.5			22.9			7.3			-31.5	
BasketBall	Ldn	18.3														18.3																
BasketBall	Ldn	23.0														23.0																
BasketBall	Ldn	21.4														21.4																
BasketBall	Ldn	21.1														21.1																
Car Lane	Ldn	22.6	6.8	-10.5	-4.8	9.8	10.3	11.9	7.9	11.3	7.7	10.5	4.9	6.1	9.4	8.5	11.6	11.0	9.9	9.9	7.4	10.8	10.8	5.3	-0.2	-7.4	-17.2	-27.3	-41.5	-61.2	-86.5	
Car Lane	Ldn	33.6	13.3	-3.8	2.0	16.8	17.5	19.2	15.8	19.4	16.0	19.2	13.9	15.5	19.3	19.0	22.7	22.5	22.2	23.0	21.3	23.9	24.4	20.6	17.4	12.7	7.2	1.5	-6.7	-15.8	-27.3	
HVAC	Ldn	35.5	-20.8	-14.7	-10.6	2.4	7.5	1.6	11.6	13.8	13.0	14.7	15.3	18.0	20.5	22.3	26.2	27.9	23.8	25.7	26.6	24.4	25.0	21.3	21.3	17.7	15.3	6.6	-3.7	-13.0	-26.9	
HVAC	Ldn	36.4	-20.0	-13.9	-9.8	3.2	8.3	2.4	12.5	14.7	14.0	15.8	16.4	19.3	22.1	23.1	27.0	28.7	24.6	26.5	27.5	25.2	25.8	22.2	22.3	18.9	16.6	8.3	-1.5	-10.3	-23.3	
HVAC	Ldn	27.3	-24.0	-18.0	-14.0	-1.0	3.9	-2.1	7.7	9.6	8.5	9.8	9.8	11.8	13.2	14.2	18.1	19.8	15.6	17.4	18.2	15.8	16.1	12.0	11.5	7.1	3.4	-7.0	-19.9	-32.7	-51.1	
HVAC	Ldn	28.5	-23.1	-17.1	-13.1	-0.1	4.9	-1.1	8.6	10.6	9.5	10.8	10.8	12.8	14.2	15.2	19.1	20.8	16.7	18.6	19.5	17.1	17.6	13.7	13.4	9.4	6.2	-3.4	-15.3	-26.8	-43.5	
HVAC	Ldn	31.7	-21.4	-15.3	-11.4	1.6	6.6	0.6	10.4	12.4	11.3	12.6	12.7	14.6	16.0	17.0	20.9	22.6	20.7	22.6	23.5	21.1	21.6	17.8	17.6	13.7	10.8	1.6	-9.3	-19.4	-33.9	
HVAC	Ldn	37.8	-18.7	-12.6	-8.6	4.5	9.6	3.7	13.7	15.9	15.0	16.8	17.3	20.0	22.4	24.5	28.4	30.0	26.0	27.9	28.9	26.6	27.4	23.8	24.0	20.8	18.9	11.0	1.8	-6.0	-17.7	
HVAC	Ldn	31.3	-20.6	-14.6	-10.6	2.4	7.3	1.3	11.2	13.1	12.0	13.4	13.5	15.4	16.8	17.8	21.7	23.4	19.3	21.2	22.2	19.9	20.5	16.8	16.9	13.3	11.0	2.4	-7.7	-16.9	-30.4	
HVAC	Ldn	30.3	-19.5	-13.5	-9.6	3.3	8.2	2.0	11.7	13.5	12.2	13.4	13.3	15.0	16.2	17.0	20.8	22.3	18.0	20.5	21.6	19.0	19.3	15.1	14.5	10.2	6.7	-3.2	-14.9	-26.1	-42.1	
HVAC	Ldn	29.7	-22.8	-16.7	-12.8	0.2	5.2	-0.8	8.9	10.9	9.8	11.1	11.1	13.0	14.4	15.4	19.2	20.9	16.7	19.8	22.1	19.6	20.0	15.9	15.4	11.1	7.6	-2.5	-14.7	-26.6	-43.6	
HVAC	Ldn	31.5	-24.3	-18.3	-14.2	-1.2	3.9	-2.0	7.9	10.0	9.2	10.8	11.3	13.9	16.2	18.5	22.5	24.2	20.1	21.9	22.8	20.4	20.8	16.8	16.2	11.9	8.2	-2.2	-15.2	-28.3	-47.1	
HVAC	Ldn	26.6	-24.7	-18.7	-14.7	-1.7	3.2	-2.8	6.9	8.9	7.8	9.1	9.1	11.0	12.5	13.4	17.3	19.0	14.9	16.7	17.5	15.0	15.3	11.2	10.5	6.0	2.1	-8.8	-22.2	-35.9	-55.5	
HVAC	Ldn	27.6	-24.0	-18.0	-14.0	-1.0	4.0	-2.0	7.7	9.7	8.6	9.9	9.9	11.9	13.3	14.3	18.2	19.9	15.8	17.6	18.5	16.1	16.6	12.6	12.2	7.9	4.4	-5.7	-18.3	-30.8	-48.8	
HVAC	Ldn	32.9	-23.2	-17.1	-13.0	0.1	5.2	-0.7	9.4	11.6	10.9	12.7	13.5	16.6	18.7	19.7	23.6	25.4	21.2	23.1	24.0	21.6	22.1	18.2	17.9	13.8	10.6	0.8	-11.2	-23.0	-40.0	
HVAC	Ldn	30.1	-25.0	-18.9	-14.9	-1.9	3.1	-2.8	7.0	9.0	8.0	9.4	9.6	11.8	13.5	14.8	19.3	21.8	19.0	21.3	22.2	19.7	20.1	16.0	15.4	10.9	7.0	-3.8	-17.3	-31.1	-50.8	
HVAC	Ldn	34.1	-22.0	-15.9	-11.9	1.3	6.4	0.6	10.6	12.9	12.3	14.3	15.4	18.5	19.9	20.9	24.8	26.5	22.4	24.3	25.2	22.9	23.4	19.6	19.4	15.6	12.7	3.5	-7.7	-18.3	-33.8	
HVAC	Ldn	24.9	-26.0	-20.0	-16.0	-3.0	1.9	-4.1	5.6	7.5	6.4	7.7	7.7	9.6	11.0	12.0	15.8	17.5	13.3	15.1	15.8	13.2	13.3	8.9	7.9	2.9	-1.8	-13.7	-28.6	-44.3	-66.5	
HVAC	Ldn	25.0	-26.7	-20.7	-16.7	-3.7	1.2	-4.8	4.9	6.8	5.7	7.0	7.0	9.0	10.4	11.3	15.2	16.9	12.7	14.5	17.2	14.6	14.7	10.3	9.2	4.0	-1.0	-13.4	-29.1	-46.0	-69.8	
HVAC	Ldn	24.8	-26.3	-20.3	-16.3	-3.3	1.6	-4.4	5.3	7.2	6.1	7.4	7.4	9.3	10.8	11.7	15.6	17.3	13.2	14.9	15.7	13.1	13.3	8.9	7.9	2.9	-1.8	-13.8	-28.9	-45.0	-67.7	
HVAC	Ldn	26.0	-23.4	-17.5	-13.7	-0.8	3.9	-2.2	7.3	9.1	7.9	9.0	8.9	10.7	12.0	12.9	16.7	18.4	14.1	15.8	16.6	14.8	14.9	10.5	9.4	4.4	-0.2	-11.8	-26.1	-41.1	-62.2	
HVAC	Ldn	27.4	-24.7	-18.9	-15.0	-2.2	2.6	-3.6	5.9	7.6	6.4	7.6	7.5	9.3	10.6	11.5	15.3	16.9	12.7	14.4	19.9	19.8	19.9	15.4	14.1	8.7	3.4	-9.4	-25.7	-43.4	-68.2	
HVAC	Ldn	26.3	-23.4	-17.4	-13.4	-0.5	4.5	-1.6	8.0	9.9	8.7	9.9	9.8	11.6	12.9	13.7	17.4	19.0	14.6	16.2	16.8	14.0	14.0	9.5	8.3	3.1	-1.8	-13.9	-28.8	-45.2	-68.1	

Gantner Elementary Noise Contribution spectra - 001 - Gantner Elementary - CNEL: Outdoor SP

23

Source	Time slice	Sum	25Hz	31.5Hz	40Hz	50Hz	63Hz	80Hz	100Hz	125Hz	160Hz	200Hz	250Hz	315Hz	400Hz	500Hz	630Hz	800Hz	1kHz	1.25kHz	1.6kHz	2kHz	2.5kHz	3.15kHz	4kHz	5kHz	6.3kHz	8kHz	10kHz	12.5kHz	16kHz		
		dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	
HVAC	Ldn	29.8	-26.0	-19.9	-15.9	-2.9	2.2	-3.7	6.1	8.2	7.4	9.0	9.4	11.9	14.2	16.7	20.7	22.4	18.3	20.1	20.9	18.7	19.1	14.7	16.2	11.3	6.7	-5.0	-19.7	-35.2	-57.3		
HVAC	Ldn	28.5	-27.0	-21.0	-16.9	-3.9	1.1	-4.8	4.9	7.0	6.1	7.7	8.0	10.4	12.5	14.4	19.6	21.4	17.2	19.0	19.8	17.7	18.0	13.6	12.6	7.4	2.4	-10.3	-26.3	-43.5	-67.7		
HVAC	Ldn	26.8	-23.9	-17.9	-13.9	-1.0	4.0	-2.0	7.6	9.5	8.4	9.6	9.6	11.4	12.8	13.7	17.5	19.1	14.8	16.5	17.1	14.4	15.4	14.2	13.0	7.5	2.3	-10.3	-26.4	-43.7	-68.0		
HVAC	Ldn	24.5	-24.7	-18.8	-15.0	-2.1	2.7	-3.5	6.0	7.7	6.5	7.6	7.4	9.2	10.5	11.3	15.1	16.7	12.4	14.0	14.7	14.1	14.1	9.5	8.1	2.6	-2.9	-16.0	-32.6	-50.6	-75.6		
HVAC	Ldn	25.1	-24.7	-18.8	-15.0	-2.2	2.6	-3.6	5.9	7.7	6.5	7.6	7.5	9.3	10.7	11.6	15.4	17.0	12.8	14.5	15.2	15.1	15.3	11.1	10.3	5.5	0.7	-12.2	-28.6	-46.2	-70.7		
HVAC	Ldn	25.1	-23.8	-17.9	-14.1	-1.2	3.6	-2.6	6.9	8.7	7.4	8.5	8.4	10.2	11.4	12.3	16.0	17.7	13.4	15.0	15.7	13.1	13.1	8.7	7.6	2.4	-2.4	-14.5	-29.7	-45.8	-68.4		
HVAC	Ldn	26.8	-24.2	-18.2	-14.2	-1.2	3.7	-2.3	7.3	9.3	8.2	9.5	9.5	11.4	12.9	13.8	17.7	19.4	15.2	16.9	17.7	15.0	15.1	10.6	9.4	4.1	-1.1	-13.8	-29.8	-47.3	-72.0		
HVAC	Ldn	26.4	-23.5	-17.4	-13.5	-0.5	4.4	-1.7	8.0	9.8	8.7	9.9	9.8	11.6	12.9	13.7	17.4	19.0	14.6	16.3	16.9	14.2	14.3	9.8	8.8	3.7	-1.1	-13.1	-28.2	-44.2	-66.9		
HVAC	Ldn	24.9	-24.3	-18.3	-14.4	-1.4	3.5	-2.6	6.9	8.7	7.5	8.7	8.6	10.3	11.6	12.4	16.1	17.6	13.2	14.8	15.3	12.5	12.5	7.8	6.5	1.0	-4.4	-17.2	-33.5	-51.0	-75.7		
HVAC	Ldn	34.1	-20.9	-14.8	-10.9	2.1	7.1	1.1	10.9	12.9	11.8	13.1	13.2	15.2	16.7	17.7	21.7	23.4	22.6	25.7	26.7	24.4	25.0	21.3	21.2	17.6	15.1	6.7	-3.0	-12.0	-25.9		
HVAC	Ldn	31.7	-22.1	-16.1	-12.1	0.9	5.9	-0.1	9.6	11.6	10.5	11.8	11.9	13.8	15.3	16.2	20.2	21.9	19.2	21.1	24.7	22.4	22.8	18.8	18.3	14.0	10.7	0.9	-10.8	-21.8	-37.5		
HVAC	Ldn	30.6	-21.6	-15.6	-11.6	1.4	6.4	0.4	10.2	12.1	11.1	12.4	12.4	14.4	15.9	16.9	20.9	22.6	18.6	20.5	21.5	19.3	20.0	16.5	16.6	13.3	11.1	2.8	-7.1	-15.6	-30.2		
HVAC	Ldn	38.5	-18.0	-11.9	-7.8	5.2	10.3	4.4	14.5	16.6	15.8	17.7	18.2	20.9	23.4	25.2	29.2	30.8	26.7	28.6	29.6	27.4	28.1	24.6	24.9	21.8	20.0	12.4	3.5	-3.8	-14.9		
HVAC	Ldn	39.0	-19.3	-13.2	-9.2	3.8	8.8	2.9	12.8	14.9	14.0	15.6	15.9	18.2	20.1	21.7	29.5	31.7	27.7	29.6	30.5	28.3	29.0	25.4	25.5	22.2	20.0	11.9	2.3	-6.0	-18.4		
HVAC	Ldn	36.7	-19.5	-13.4	-9.4	3.6	8.7	2.7	12.7	14.7	13.8	15.4	15.7	18.0	20.0	21.7	26.7	29.3	25.2	27.1	28.1	25.8	26.6	23.0	23.1	19.8	17.6	9.5	0.0	-8.3	-20.7		
HVAC	Ldn	32.1	-22.9	-16.8	-12.8	0.2	5.2	-0.8	9.1	11.1	10.1	11.5	11.6	13.8	15.4	16.7	21.0	23.2	19.9	23.1	24.5	22.1	22.6	18.8	18.5	14.6	11.5	1.9	-9.7	-21.0	-37.3		
HVAC	Ldn	31.9	-24.2	-18.2	-14.1	-1.1	3.9	-2.0	7.9	10.0	9.1	10.6	10.9	13.3	15.3	17.2	22.6	24.3	20.2	22.1	23.6	21.4	22.0	18.0	17.6	13.3	9.4	-1.2	-14.3	-27.4	-46.1		
HVAC	Ldn	30.4	-25.2	-19.1	-15.1	-2.0	3.0	-3.0	6.8	8.9	7.9	9.4	9.6	11.9	13.7	15.2	20.0	23.1	19.3	21.1	22.3	20.0	20.5	16.3	15.5	10.8	6.7	-4.4	-18.1	-32.3	-52.4		
HVAC	Ldn	37.3	-19.1	-13.0	-9.0	4.1	9.2	3.3	13.4	15.5	14.8	16.6	17.2	20.0	22.7	24.0	28.0	29.6	25.5	27.4	28.4	26.2	26.9	23.3	23.5	20.2	18.2	10.2	0.8	-7.3	-19.4		
HVAC	Ldn	34.4	-20.7	-14.7	-10.7	2.4	7.4	1.4	11.3	13.3	12.3	13.7	13.9	16.0	17.6	18.8	23.1	25.3	21.9	24.9	26.8	24.5	25.2	21.5	21.5	18.0	15.6	7.0	-3.2	-12.4	-26.0		
HVAC	Ldn	33.8	-21.6	-15.5	-11.5	1.5	6.5	0.5	10.4	12.4	11.4	12.9	13.1	15.2	16.9	18.3	22.8	25.2	22.3	24.9	25.9	23.5	24.1	20.4	20.3	16.6	13.9	5.0	-5.8	-15.8	-30.5		
Playground	Ldn	14.5		-61.1	-51.6	-43.0	-35.9	-29.3	-26.2	-20.7	-14.7	-12.1	-8.2	-5.0	-0.5	2.0	3.0	6.3	7.4	6.8	6.0	4.2	0.8	-2.6	-7.2	-14.0	-24.3	-36.2	-50.1				
Playground	Ldn	16.9		-60.4	-50.8	-42.0	-34.7	-27.9	-24.8	-19.1	-13.1	-10.3	-6.3	-3.0	1.5	4.1	5.2	8.6	9.8	9.3	7.6	7.2	4.5	0.7	-4.1	-11.2	-22.1	-34.8	-50.5				
Playground	Ldn	23.9		-61.0	-51.3	-42.5	-35.0	-28.0	-24.4	-18.3	-11.8	-8.5	-4.0	-0.1	4.5	7.7	9.6	14.2	16.0	16.9	16.2	15.2	12.6	10.3	7.7	2.5	-5.7	-15.1	-26.4				
Playground	Ldn	36.5		-52.2	-42.4	-33.4	-25.8	-18.5	-14.4	-8.2	-1.5	2.4	7.1	11.2	16.1	19.6	21.7	25.9	28.4	29.4	28.8	27.9	25.9	23.4	21.2	17.6	11.6	5.3	-1.8				
Soccer Game	Ldn	28.7							14.9	15.8	15.5	12.9	12.8	14.0	14.0	14.2	16.1	20.6	19.2	17.3	19.7	13.8	15.7	18.0	9.4	-4.5	-14.1	-27.6	-43.8				
TetherBall	Ldn	25.1														25.1																	
TetherBall	Ldn	20.4														20.4																	
TetherBall	Ldn	18.1														18.1																	
TetherBall	Ldn	18.0														18.0																	
TetherBall	Ldn	18.0														18.0																	
TetherBall	Ldn	16.7														16.7																	
TetherBall	Ldn	16.7														16.7																	
TetherBall	Ldn	18.1														18.1																	
TetherBall	Ldn	18.3														18.3																	

Gantner Elementary Noise Contribution spectra - 001 - Gantner Elementary - CNEL: Outdoor SP

23

Source	Time slice	Sum	25Hz	31.5Hz	40Hz	50Hz	63Hz	80Hz	100Hz	125Hz	160Hz	200Hz	250Hz	315Hz	400Hz	500Hz	630Hz	800Hz	1kHz	1.25kHz	1.6kHz	2kHz	2.5kHz	3.15kHz	4kHz	5kHz	6.3kHz	8kHz	10kHz	12.5kHz	16kHz						
		dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)						
TetherBall	Ldn	14.2														14.2																					
TetherBall	Ldn	17.0														17.0																					
TetherBall	Ldn	19.2														19.2																					
TetherBall	Ldn	15.6														15.6																					
TetherBall	Ldn	15.5														15.5																					
TetherBall	Ldn	14.1														14.1																					
Receiver R4		FI G	dB(A) Ldn 57.2 dB(A)																																		
Auto Parking	Ldn	34.5					22.3				31.8				20.8				24.4				24.7				25.3				18.1			-2.0			-50.7
Auto Parking	Ldn	55.7					39.8				50.7				42.2				47.1				48.2				48.5				45.2			36.6			17.8
BasketBall	Ldn	14.9																																			
BasketBall	Ldn	17.9																																			
BasketBall	Ldn	21.0																																			
BasketBall	Ldn	21.2																																			
Car Lane	Ldn	29.8	9.5	-7.6	-1.8	13.0	13.7	15.4	11.8	15.4	11.9	15.0	9.7	11.3	15.2	15.3	18.9	18.7	18.4	19.1	17.3	20.9	21.1	16.9	13.2	7.9	1.5	-6.0	-16.8	-29.6	-45.9						
Car Lane	Ldn	49.0	22.8	5.8	11.8	26.8	27.8	29.8	27.1	31.0	28.0	32.2	27.3	29.3	33.7	34.0	38.1	37.8	37.9	39.0	37.5	40.4	41.2	37.8	35.1	31.1	26.5	22.3	16.2	10.1	3.0						
HVAC	Ldn	23.7	-27.0	-21.0	-17.0	-4.0	1.0	-5.1	4.6	6.6	5.5	6.7	6.7	8.6	10.0	10.9	14.8	16.4	12.2	13.9	14.5	11.8	11.8	7.2	5.9	0.4	-4.8	-17.5	-33.6	-51.0	-75.3						
HVAC	Ldn	24.3	-26.5	-20.5	-16.5	-3.5	1.4	-4.6	5.1	7.1	6.0	7.2	7.2	9.1	10.5	11.4	15.3	17.0	12.7	14.4	15.1	12.4	12.5	8.0	6.8	1.5	-3.5	-15.8	-31.3	-47.9	-71.2						
HVAC	Ldn	23.7	-27.4	-21.4	-17.4	-4.4	0.6	-5.4	4.2	6.1	5.0	6.3	6.4	8.3	9.7	10.7	14.6	16.3	12.2	13.9	14.7	12.1	12.3	7.9	6.8	1.4	-3.7	-16.3	-32.5	-50.0	-74.7						
HVAC	Ldn	22.9	-27.5	-21.5	-17.5	-4.6	0.4	-5.6	4.0	5.9	4.8	6.1	6.1	7.9	9.3	10.2	14.0	15.7	11.4	13.0	13.6	10.8	10.7	6.0	4.4	-1.3	-7.0	-20.3	-37.2	-55.6	-81.4						
HVAC	Ldn	24.6	-26.1	-20.1	-16.1	-3.1	1.9	-4.2	5.5	7.4	6.3	7.6	7.6	9.5	10.9	11.8	15.6	17.2	13.0	14.6	15.3	12.6	12.6	8.1	6.9	5.2	0.5	-11.3	-26.3	-42.1	-64.4						
HVAC	Ldn	25.9	-25.6	-19.6	-15.6	-2.6	2.3	-3.7	6.0	8.0	6.9	8.1	8.1	10.0	11.4	12.4	16.2	17.9	13.7	15.4	17.9	15.2	15.4	10.9	9.9	4.7	-0.1	-12.1	-27.0	-42.5	-64.1						
HVAC	Ldn	25.7	-23.2	-17.4	-13.5	-0.7	4.1	-2.1	7.4	9.2	7.9	9.1	9.0	10.8	12.1	12.9	16.7	18.3	14.0	15.7	16.4	13.7	13.8	9.4	8.4	3.4	-1.1	-12.6	-26.9	-41.8	-62.7						
HVAC	Ldn	28.1	-22.1	-16.1	-12.1	0.9	5.8	-0.2	9.5	11.4	10.3	11.5	11.5	13.3	14.7	15.5	19.3	20.9	16.5	18.1	18.7	15.9	15.9	11.5	10.4	5.4	0.9	-10.5	-24.7	-39.3	-59.8						
HVAC	Ldn	25.6	-23.4	-17.5	-13.6	-0.8	4.1	-2.1	7.4	9.1	7.9	9.0	8.9	10.6	11.9	12.8	16.5	18.1	13.8	15.5	16.2	13.6	13.7	9.3	8.3	3.2	-1.4	-13.1	-27.9	-43.4	-65.2						
HVAC	Ldn	21.3	-29.1	-23.1	-19.1	-6.1	-1.2	-7.2	2.4	4.4	3.3	4.5	4.5	6.4	7.8	8.7	12.5	14.1	9.8	11.4	12.0	9.1	8.8	3.9	2.0	-4.4	-11.1	-25.8	-44.9	-66.4	-96.2						
HVAC	Ldn	23.0	-28.1	-22.0	-18.1	-5.1	-0.1	-6.1	3.5	5.4	4.4	5.7	5.7	7.6	9.0	10.0	13.9	15.6	11.4	13.2	13.9	11.3	11.4	6.9	5.6	0.0	-5.5	-18.8	-35.9	-54.7	-81.0						
HVAC	Ldn	22.2	-28.2	-22.2	-18.2	-5.3	-0.3	-6.3	3.3	5.2	4.1	5.4	5.4	7.3	8.7	9.6	13.4	15.0	10.7	12.4	13.0	10.1	10.0	5.2	3.5	-2.5	-8.6	-22.5	-40.3	-60.0	-87.4						
HVAC	Ldn	22.1	-28.4	-22.4	-18.4	-5.5	-0.5	-6.5	3.2	5.1	4.0	5.2	5.2	7.1	8.5	9.4	13.2	14.9	10.6	12.2	12.8	10.0	9.8	5.0	3.3	-2.8	-5.5	-19.4	-37.4	-57.3	-85.2						
HVAC	Ldn	21.0	-29.3	-23.3	-19.3	-6.3	-1.4	-7.4	2.2	4.1	3.0	4.3	4.3	6.2	7.5	8.4	12.2	13.9	9.6	11.2	11.7	8.8	8.5	3.4	1.5	-5.1	-12.0	-27.1	-46.7	-69.0	-99.8						
HVAC	Ldn	22.7	-27.8	-21.8	-17.8	-4.8	0.2	-5.9	3.8	5.7	4.6	5.9	5.9	7.7	9.1	10.0	13.8	15.5	11.2	12.8	13.4	10.6	10.5	5.8	4.2	1.8	-3.8	-17.1	-34.2	-52.9	-79.1						
HVAC	Ldn	24.1	-25.8	-19.8	-15.8	-2.8	2.1	-3.9	5.6	7.5	6.3	7.6	7.6	9.4	10.7	11.6	15.3	16.9	12.6	14.1	14.7	11.8	11.6	6.8	5.1	-1.0	-7.2	-21.4	-39.7	-60.2	-88.9						
HVAC	Ldn	23.3	-26.3	-20.3	-16.3	-3.4	1.6	-4.5	5.0	6.8	5.7	7.0	6.9	8.7	10.0	10.8	14.5	16.1	11.7	13.2	13.7	10.8	10.6	5.6	3.8	-2.6	-9.3	-24.2	-43.7	-65.7	-96.4						
HVAC	Ldn	21.7	-27.2	-21.4	-17.7	-4.9	-0.2	-6.4	2.9	4.7	3.5	4.8	4.7	6.6	8.0	8.9	12.7	14.4	10.2	11.9	12.6	9.8	9.7	4.9	3.1	-3.2	-9.8	-24.7	-44.1	-66.2	-97.0						
HVAC	Ldn	29.2	-22.4	-16.4	-12.4	0.6	5.5	-0.5	9.3	11.3	10.2	11.5	11.5	13.5	14.9	15.9	19.8	21.5	17.4	19.2	20.1	17.8	18.3	14.5	14.2	10.3	7.3	-2.1	-13.5	-24.4	-40.3						

Gantner Elementary Noise Contribution spectra - 001 - Gantner Elementary - CNEL: Outdoor SP

23

Source	Time slice	Sum	25Hz	31.5Hz	40Hz	50Hz	63Hz	80Hz	100Hz	125Hz	160Hz	200Hz	250Hz	315Hz	400Hz	500Hz	630Hz	800Hz	1kHz	1.25kHz	1.6kHz	2kHz	2.5kHz	3.15kHz	4kHz	5kHz	6.3kHz	8kHz	10kHz	12.5kHz	16kHz			
		dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)			
HVAC	Ldn	28.2	-23.4	-17.4	-13.4	-0.4	4.5	-1.5	8.3	10.2	9.1	10.5	10.5	12.4	13.9	14.9	18.8	20.5	16.4	18.3	19.2	16.8	17.3	13.3	13.0	8.9	5.7	-4.2	-16.3	-28.1	-45.2			
HVAC	Ldn	25.5	-25.6	-19.6	-15.6	-2.6	2.3	-3.7	6.0	8.0	6.9	8.2	8.2	10.1	11.5	12.5	16.3	18.0	13.8	15.6	16.3	13.8	14.0	9.6	8.7	3.8	-0.6	-12.1	-26.6	-41.6	-62.9			
HVAC	Ldn	36.6	-19.8	-13.7	-9.6	3.4	8.5	2.6	12.6	14.8	14.0	15.7	16.3	18.9	21.4	23.3	27.3	28.9	24.8	26.8	27.7	25.5	26.1	22.5	22.6	19.2	17.0	8.8	-0.9	-9.5	-22.2			
HVAC	Ldn	33.8	-21.8	-15.7	-11.7	1.3	6.3	0.4	10.2	12.2	11.3	12.8	13.0	15.2	17.0	18.4	23.0	25.7	22.8	24.7	25.6	23.3	23.9	20.1	20.0	16.3	13.6	4.5	-6.4	-16.6	-31.5			
HVAC	Ldn	29.1	-17.8	-11.8	-12.6	0.4	5.4	-0.6	9.2	11.1	10.0	11.4	11.4	13.3	14.8	15.8	19.7	21.4	17.3	19.2	20.1	17.7	18.3	14.4	14.2	10.3	7.4	-2.0	-13.4	-24.3	-40.2			
HVAC	Ldn	26.5	-22.8	-16.8	-12.9	0.0	4.9	-1.2	8.3	10.1	8.9	10.0	9.8	11.6	12.9	13.7	17.4	19.0	14.7	16.4	17.1	14.4	14.6	10.3	9.4	4.6	0.2	-11.2	-25.5	-40.3	-61.4			
HVAC	Ldn	27.0	-22.3	-16.3	-12.5	0.4	5.2	-0.9	8.7	10.4	9.2	10.3	10.2	11.9	13.2	14.0	17.8	19.4	15.1	16.9	17.6	15.1	15.3	11.1	10.4	5.7	1.7	-9.3	-22.9	-36.8	-56.7			
HVAC	Ldn	26.2	-25.0	-18.9	-15.0	-2.0	3.0	-3.0	6.7	8.6	7.6	8.8	8.9	10.8	12.2	13.2	17.0	18.8	14.6	16.4	17.2	14.6	14.9	10.7	10.0	5.3	1.2	-9.8	-23.5	-37.6	-57.7			
HVAC	Ldn	24.4	-26.5	-20.5	-16.5	-3.5	1.4	-4.6	5.0	7.0	5.9	7.2	7.2	9.1	10.5	11.5	15.3	17.0	12.8	14.6	15.3	12.7	12.8	8.3	7.2	2.0	-2.9	-15.1	-30.6	-47.1	-70.3			
HVAC	Ldn	24.8	-26.1	-20.1	-16.1	-3.1	1.8	-4.2	5.5	7.4	6.3	7.6	7.6	9.5	10.9	11.9	15.7	17.4	13.2	14.9	15.6	13.0	13.1	8.7	7.6	2.5	-2.3	-14.3	-29.3	-45.3	-67.7			
HVAC	Ldn	25.0	-26.0	-20.0	-16.0	-3.0	1.9	-4.1	5.6	7.5	6.4	7.7	7.7	9.6	11.1	12.0	15.9	17.6	13.4	15.2	15.9	13.3	13.5	9.2	8.2	3.2	-1.5	-13.3	-28.1	-43.8	-65.9			
HVAC	Ldn	29.1	-20.9	-15.0	-11.2	1.6	6.4	0.2	9.8	11.5	10.3	11.4	11.3	13.1	14.5	15.3	19.1	20.6	16.4	18.0	20.9	18.5	19.0	15.2	15.3	10.9	6.9	-3.9	-17.1	-30.0	-48.0			
HVAC	Ldn	33.1	-19.7	-13.6	-9.7	3.3	8.3	2.3	12.0	14.0	12.9	14.2	14.3	16.2	17.6	18.6	22.5	24.2	20.1	24.2	25.1	22.7	23.1	19.2	18.8	14.6	11.2	1.3	-10.7	-22.2	-38.7			
HVAC	Ldn	29.8	-19.4	-13.5	-9.6	3.3	8.1	2.0	11.6	13.4	12.1	13.2	13.1	14.8	16.1	16.9	20.7	22.2	17.9	19.6	20.4	17.8	18.2	14.1	13.7	9.6	6.4	-3.2	-14.7	-25.6	-41.3			
HVAC	Ldn	26.0	-25.0	-19.0	-15.0	-2.0	2.9	-3.1	6.6	8.5	7.5	8.7	8.7	10.7	12.1	13.0	16.9	18.5	14.3	16.1	16.8	14.2	14.4	10.2	9.3	4.5	0.3	-10.9	-24.9	-39.2	-59.5			
HVAC	Ldn	27.3	-23.7	-17.7	-13.7	-0.7	4.3	-1.8	7.9	9.9	8.8	10.1	10.1	12.0	13.4	14.3	18.2	19.8	15.6	17.3	18.1	15.5	15.7	11.5	10.9	6.3	2.6	-7.9	-20.7	-33.4	-51.6			
HVAC	Ldn	28.4	-22.8	-16.8	-12.8	0.2	5.1	-0.9	8.9	10.8	9.7	11.0	11.0	12.9	14.4	15.3	19.2	20.9	16.7	18.5	19.3	16.8	17.1	13.1	12.6	8.4	5.0	-4.9	-16.9	-28.6	-45.3			
HVAC	Ldn	39.5	-17.1	-11.0	-7.0	6.1	11.2	5.3	15.4	17.6	16.9	18.9	19.6	22.5	25.1	26.1	30.0	31.6	27.5	29.5	30.4	28.2	29.1	25.6	25.9	22.9	21.2	13.8	5.3	-1.5	-12.0			
HVAC	Ldn	39.5	-17.1	-11.0	-6.9	6.1	11.2	5.4	15.6	17.8	17.2	19.1	20.0	23.2	25.1	26.1	30.0	31.6	27.5	29.5	30.5	28.3	29.0	25.6	25.9	22.9	21.3	13.9	5.4	-1.5	-12.0			
HVAC	Ldn	38.3	-18.2	-12.1	-8.0	5.0	10.1	4.2	14.3	16.5	15.7	17.6	18.2	21.0	23.7	25.0	28.9	30.6	26.5	28.4	29.4	27.2	27.9	24.4	24.6	21.5	19.7	12.0	3.0	-4.5	-15.8			
HVAC	Ldn	36.4	-20.0	-13.9	-9.8	3.2	8.3	2.4	12.4	14.5	13.6	15.3	15.8	18.3	20.6	23.0	27.1	28.8	24.7	26.6	27.5	25.3	25.9	22.3	22.4	19.3	17.0	8.6	-1.3	-10.0	-23.0			
HVAC	Ldn	37.7	-18.7	-12.6	-8.6	4.5	9.6	3.7	13.7	15.9	15.1	16.9	17.5	20.2	22.9	24.4	28.4	30.0	25.9	27.9	28.8	26.6	27.3	23.8	24.0	20.7	18.8	10.9	1.7	-6.1	-17.8			
HVAC	Ldn	38.5	-18.0	-11.9	-7.9	5.2	10.2	4.4	14.4	16.6	15.8	17.6	18.1	20.8	23.4	25.2	29.1	30.7	26.7	28.6	29.6	27.4	28.1	24.6	24.9	21.8	20.0	12.3	3.4	-3.9	-15.0			
Playground	Ldn	14.9	-60.4	-51.1	-42.7	-35.6	-29.0	-26.0	-20.4	-14.4	-11.6	-7.7	-4.5	0.1	2.6	3.7	7.1	8.2	7.7	5.7	3.6	0.2	-4.2	-8.7	-15.5	-25.9	-38.0	-53.1						
Playground	Ldn	18.1		-59.6	-50.1	-41.4	-34.2	-27.4	-24.2	-18.4	-12.2	-9.3	-5.1	-1.8	2.9	5.6	6.8	10.3	11.4	10.9	8.8	6.2	3.8	-0.3	-5.3	-12.7	-24.0	-37.6	-54.8					
Playground	Ldn	30.6		-54.6	-44.9	-36.0	-28.5	-21.4	-17.6	-11.6	-5.0	-1.6	2.9	6.7	11.3	14.6	16.5	20.6	23.3	23.7	22.9	21.4	19.2	16.4	13.8	9.7	2.8	-4.6	-13.4					
Playground	Ldn	19.4		-55.6	-46.2	-37.7	-30.6	-24.0	-20.8	-15.5	-9.8	-7.5	-4.0	-1.2	2.4	4.6	6.1	9.9	11.7	12.1	12.1	10.3	7.3	3.3	-0.7	-4.2	-12.7	-21.9	-32.5					
Soccer Game	Ldn	31.0							15.7	16.7	16.6	14.3	14.4	15.8	16.2	16.5	18.7	23.3	22.1	20.4	22.8	16.0	17.4	19.6	11.1	-2.7	-12.4	-26.5	-44.2					
TetherBall	Ldn	14.9														14.9																		
TetherBall	Ldn	15.0														15.0																		
TetherBall	Ldn	14.5														14.5																		
TetherBall	Ldn	18.0														18.0																		
TetherBall	Ldn	17.9														17.9																		
TetherBall	Ldn	15.4														15.4																		
TetherBall	Ldn	15.1														15.1																		

Gantner Elementary Noise Contribution spectra - 001 - Gantner Elementary - CNEL: Outdoor SP

23

Source	Time slice	Sum	25Hz	31.5Hz	40Hz	50Hz	63Hz	80Hz	100Hz	125Hz	160Hz	200Hz	250Hz	315Hz	400Hz	500Hz	630Hz	800Hz	1kHz	1.25kHz	1.6kHz	2kHz	2.5kHz	3.15kHz	4kHz	5kHz	6.3kHz	8kHz	10kHz	12.5kHz	16kHz	
		dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	
TetherBall	Ldn	14.8														14.8																
TetherBall	Ldn	17.7														17.7																
TetherBall	Ldn	22.0														22.0																
TetherBall	Ldn	14.7														14.7																
TetherBall	Ldn	14.3														14.3																
TetherBall	Ldn	22.9														22.9																
TetherBall	Ldn	22.6														22.6																
TetherBall	Ldn	22.3														22.3																
Receiver R5 FI G		dB(A) Ldn 55.6 dB(A)																														
Auto Parking	Ldn	53.8					37.8			48.8			40.2			45.3			46.4			46.8			43.3			34.2			13.7	
Auto Parking	Ldn	32.1					20.7			30.0			18.7			22.0			21.6			19.9			11.8			-9.6			-61.7	
BasketBall	Ldn	25.8														25.8																
BasketBall	Ldn	20.3														20.3																
BasketBall	Ldn	32.7														32.7																
BasketBall	Ldn	34.2														34.2																
Car Lane	Ldn	44.6	17.9	1.0	6.9	22.0	22.9	24.9	22.2	26.2	23.1	27.3	22.4	24.4	28.5	28.8	33.1	32.8	33.1	34.3	32.8	35.9	37.0	34.2	32.2	28.4	24.0	19.8	13.7	7.4	-0.2	
Car Lane	Ldn	38.3	14.6	-2.4	3.5	18.4	19.3	21.3	18.1	22.0	18.9	22.4	17.4	19.3	23.4	23.3	27.3	27.2	27.2	28.3	26.8	29.5	30.1	26.3	23.1	18.4	12.7	6.8	-1.9	-11.7	-24.0	
HVAC	Ldn	23.2	-27.4	-21.3	-17.4	-4.4	0.6	-5.4	4.2	6.1	5.0	6.3	6.3	8.2	9.6	10.5	14.3	16.0	11.7	13.3	14.0	11.2	11.1	6.4	5.0	-0.7	-6.2	-19.3	-35.9	-54.0	-79.2	
HVAC	Ldn	23.2	-27.3	-21.3	-17.3	-4.3	0.6	-5.4	4.3	6.2	5.1	6.4	6.4	8.2	9.6	10.5	14.3	16.0	11.7	13.3	13.9	11.2	11.1	6.4	5.0	-0.7	-6.2	-19.3	-35.9	-53.9	-79.0	
HVAC	Ldn	25.6	-23.6	-17.7	-13.9	-1.1	3.7	-2.5	7.0	8.8	7.6	8.7	8.6	10.4	11.8	12.6	16.5	18.1	13.8	15.6	16.3	13.7	13.8	9.5	8.5	3.5	-1.0	-12.7	-27.3	-42.6	-64.2	
HVAC	Ldn	24.4	-24.8	-18.9	-15.1	-2.3	2.5	-3.6	5.9	7.6	6.4	7.6	7.5	9.3	10.7	11.5	15.3	17.0	12.7	14.4	15.1	12.4	12.4	7.9	6.7	1.4	-3.7	-16.1	-31.8	-48.6	-72.2	
HVAC	Ldn	24.2	-26.4	-20.3	-16.4	-3.4	1.6	-4.4	5.2	7.1	6.0	7.3	7.3	9.2	10.6	11.5	15.3	16.9	12.7	14.3	14.9	12.2	12.2	7.6	6.4	1.0	-4.0	-16.3	-31.8	-48.2	-71.2	
HVAC	Ldn	23.4	-27.2	-21.2	-17.2	-4.3	0.7	-5.3	4.3	6.2	5.1	6.4	6.3	8.2	9.6	10.5	14.3	15.9	11.5	13.1	13.7	12.8	12.7	7.9	6.3	0.4	-3.9	-17.5	-34.8	-53.5	-79.0	
HVAC	Ldn	24.2	-26.3	-20.3	-16.3	-3.3	1.6	-4.4	5.3	7.2	6.1	7.3	7.3	9.2	10.6	11.5	15.3	16.9	12.6	14.3	14.9	12.1	12.1	7.5	6.2	0.9	-4.1	-16.5	-31.9	-48.3	-71.3	
HVAC	Ldn	25.5	-25.2	-19.2	-15.2	-2.3	2.7	-3.3	6.4	8.3	7.2	8.5	8.5	10.4	11.7	12.7	16.5	18.1	13.9	15.5	16.2	13.5	13.6	9.2	8.2	3.2	-1.2	-12.7	-27.0	-41.7	-62.6	
HVAC	Ldn	25.5	-25.3	-19.3	-15.3	-2.3	2.7	-3.4	6.3	8.3	7.2	8.4	8.4	10.3	11.7	12.7	16.5	18.2	13.9	15.6	16.3	13.7	13.8	9.4	8.4	3.5	-1.0	-12.5	-26.7	-41.5	-62.4	
HVAC	Ldn	23.7	-25.3	-19.3	-15.4	-2.5	2.4	-3.7	5.8	7.6	6.3	7.5	7.3	9.0	10.3	11.0	14.8	16.3	12.0	13.6	14.2	11.4	11.3	6.6	5.2	-0.6	-6.3	-19.8	-37.0	-56.1	-82.6	
HVAC	Ldn	26.5	-23.2	-17.1	-13.2	-0.2	4.7	-1.4	8.2	10.1	8.9	10.1	10.0	11.7	13.0	13.8	17.5	19.1	14.8	16.4	17.0	14.4	14.5	10.1	9.1	4.1	-0.5	-12.3	-27.0	-42.6	-64.6	
HVAC	Ldn	24.7	-24.3	-18.3	-14.4	-1.5	3.3	-2.8	6.7	8.5	7.2	8.3	8.2	9.9	11.2	12.0	15.7	17.3	13.0	14.6	15.3	12.6	12.6	8.1	6.9	1.6	-3.5	-16.0	-31.9	-49.1	-73.1	
HVAC	Ldn	23.5	-25.3	-19.4	-15.5	-2.7	2.1	-4.1	5.5	7.2	6.0	7.1	6.9	8.7	9.9	10.8	14.5	16.1	11.8	13.5	14.1	11.4	11.3	6.7	5.3	-0.4	-6.0	-19.3	-36.2	-54.8	-80.9	
HVAC	Ldn	24.1	-28.2	-22.1	-18.1	-5.1	-0.2	-6.2	3.5	5.5	4.4	5.7	5.8	7.8	9.3	10.3	14.3	16.2	12.2	14.2	15.2	13.1	13.8	10.2	10.2	4.6	-1.0	-14.4	-31.6	-50.5	-77.1	
HVAC	Ldn	23.3	-25.7	-19.9	-16.1	-3.2	1.5	-4.6	4.9	6.7	5.5	6.6	6.6	8.4	9.7	10.6	14.4	16.0	11.7	13.4	14.0	11.3	11.2	6.5	5.1	-0.6	-6.2	-19.3	-36.1	-54.4	-80.0	
HVAC	Ldn	27.8	-26.1	-20.0	-16.0	-3.0	1.9	-4.0	5.7	7.6	6.6	8.0	8.1	10.1	11.7	12.9	17.0	19.1	15.4	17.9	19.7	18.4	18.7	14.5	13.7	8.8	4.4	-7.2	-21.8	-37.2	-59.1	
HVAC	Ldn	26.8	-26.7	-20.7	-16.7	-3.7	1.3	-4.7	5.0	7.0	5.9	7.3	7.4	9.4	11.0	12.1	16.2	18.2	14.5	16.8	18.4	17.1	17.9	13.6	12.6	7.6	2.8	-9.3	-24.7	-41.1	-64.3	

Gantner Elementary Noise Contribution spectra - 001 - Gantner Elementary - CNEL: Outdoor SP

23

Source	Time slice	Sum	25Hz	31.5Hz	40Hz	50Hz	63Hz	80Hz	100Hz	125Hz	160Hz	200Hz	250Hz	315Hz	400Hz	500Hz	630Hz	800Hz	1kHz	1.25kHz	1.6kHz	2kHz	2.5kHz	3.15kHz	4kHz	5kHz	6.3kHz	8kHz	10kHz	12.5kHz	16kHz		
		dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	
HVAC	Ldn	25.3	-27.3	-21.2	-17.2	-4.2	0.7	-5.2	4.4	6.3	5.3	6.6	6.7	8.7	10.2	11.3	15.3	17.2	13.2	15.3	16.4	14.4	15.3	12.1	11.8	6.5	1.5	-11.1	-27.0	-44.4	-68.7		
HVAC	Ldn	30.3	-21.7	-15.7	-11.7	1.3	6.3	0.3	10.1	12.0	11.0	12.3	12.4	14.3	15.8	16.8	20.7	22.4	18.4	20.3	21.3	19.0	19.7	16.0	16.1	12.5	10.1	1.4	-9.0	-18.5	-32.4		
HVAC	Ldn	37.2	-19.2	-13.1	-9.0	4.0	9.1	3.2	13.3	15.4	14.7	16.5	17.1	20.0	22.8	23.9	27.9	29.5	25.4	27.4	28.3	26.1	26.8	23.2	23.4	20.1	18.0	10.0	0.6	-7.6	-19.8		
HVAC	Ldn	31.7	-20.2	-14.2	-10.2	2.8	7.7	1.7	11.6	13.5	12.5	13.8	13.9	15.8	17.2	18.2	22.2	23.8	19.7	21.6	22.6	20.3	21.0	17.4	17.4	14.0	11.7	3.3	-6.6	-15.4	-28.5		
HVAC	Ldn	29.1	-22.6	-16.6	-12.6	0.4	5.4	-0.6	9.2	11.1	10.1	11.4	11.4	13.4	14.8	15.8	19.7	21.4	17.3	19.2	20.1	17.7	18.3	14.5	14.2	10.4	7.4	-2.0	-13.4	-24.3	-40.2		
HVAC	Ldn	35.7	-20.5	-14.5	-10.4	2.6	7.6	1.7	11.7	13.7	12.9	14.5	14.9	17.3	19.3	21.3	26.5	28.2	24.1	26.0	26.9	24.7	25.3	21.7	21.7	18.2	15.8	7.3	-2.9	-12.0	-25.5		
HVAC	Ldn	36.6	-19.8	-13.7	-9.6	3.5	8.6	2.7	12.8	15.0	14.3	16.3	17.1	20.3	22.3	23.3	27.2	28.9	24.8	26.7	27.7	25.4	26.1	22.4	22.5	19.2	17.0	8.7	-1.1	-9.7	-22.5		
HVAC	Ldn	38.7	-17.8	-11.7	-7.7	5.4	10.4	4.5	14.6	16.7	15.8	17.6	18.0	20.5	22.7	25.1	29.4	31.0	26.9	28.8	29.8	27.6	28.4	24.9	25.2	22.1	20.3	12.8	4.0	-3.2	-14.2		
HVAC	Ldn	36.7	-18.7	-12.7	-8.7	4.3	9.3	3.4	13.3	15.3	14.3	15.8	16.0	18.1	19.7	21.0	25.3	27.4	24.1	27.2	28.9	26.7	27.4	23.9	24.1	20.9	18.9	11.1	2.0	-5.8	-17.5		
HVAC	Ldn	33.7	-17.1	-11.1	-7.1	5.9	10.8	4.8	14.6	16.5	15.4	16.7	16.7	18.5	19.8	20.7	24.5	26.0	21.7	23.4	24.2	21.8	22.3	18.5	18.5	15.0	12.6	4.2	-5.6	-14.3	-27.3		
HVAC	Ldn	37.5	-18.8	-12.7	-8.7	4.3	9.3	3.4	13.4	15.5	14.6	16.2	16.6	18.9	20.9	22.7	28.0	30.0	25.9	27.8	28.8	26.6	27.3	23.7	23.9	20.7	18.7	10.8	1.6	-6.2	-18.0		
HVAC	Ldn	31.3	-20.6	-14.6	-10.6	2.4	7.3	1.3	11.2	13.1	12.1	13.4	13.5	15.4	16.8	17.8	21.7	23.4	19.3	21.2	22.2	19.9	20.5	16.9	16.9	13.4	11.0	2.5	-7.6	-16.8	-30.3		
HVAC	Ldn	38.2	-18.2	-12.1	-8.1	4.9	10.0	4.1	14.1	16.2	15.3	17.0	17.4	19.9	22.0	24.2	28.9	30.6	26.5	28.4	29.4	27.2	27.9	24.4	24.6	21.5	19.7	12.0	3.0	-4.4	-15.7		
HVAC	Ldn	25.4	-23.1	-17.2	-13.3	-0.4	4.4	-1.8	7.7	9.4	8.0	9.0	8.8	10.5	11.8	12.6	16.3	17.9	13.6	15.2	15.9	13.1	13.2	8.7	7.6	9.2	4.8	-6.7	-21.2	-36.4	-57.9		
HVAC	Ldn	26.9	-22.1	-16.1	-12.1	0.8	5.7	-0.4	9.2	11.0	9.8	10.9	10.6	12.3	13.5	14.2	17.8	19.3	14.9	16.5	17.2	14.5	14.5	10.1	9.2	10.8	6.8	-4.2	-17.8	-31.9	-51.9		
HVAC	Ldn	27.9	-25.4	-19.4	-15.4	-2.4	2.6	-3.4	6.3	8.3	7.2	8.6	8.6	10.6	12.2	13.3	17.4	19.4	15.5	17.7	19.1	17.4	19.0	15.5	14.8	10.1	6.0	-5.1	-18.9	-33.3	-53.8		
HVAC	Ldn	23.1	-25.7	-19.9	-16.1	-3.3	1.5	-4.6	4.9	6.6	5.4	6.6	6.5	8.3	9.7	10.5	14.3	15.9	11.5	13.1	13.7	10.8	10.6	5.9	4.4	-1.4	-7.0	-20.1	-36.7	-54.6	-79.7		
HVAC	Ldn	24.1	-24.2	-18.3	-14.5	-1.6	3.1	-3.1	6.3	8.0	6.7	7.7	7.5	9.3	10.6	11.4	15.2	16.7	12.4	14.0	14.5	11.7	11.6	7.0	5.6	0.1	-5.1	-17.6	-33.3	-50.0	-73.4		
HVAC	Ldn	25.1	-23.6	-17.5	-13.6	-0.7	4.2	-1.8	7.7	9.5	8.2	9.3	9.1	10.7	11.9	12.6	16.2	17.7	13.3	14.8	15.4	12.6	12.5	7.9	6.6	1.2	-3.9	-16.3	-25.4	-40.5	-63.0		
HVAC	Ldn	25.2	-25.9	-19.9	-15.9	-2.9	2.0	-4.0	5.7	7.6	6.5	7.8	7.8	9.8	11.2	12.1	16.0	17.7	13.5	15.3	16.1	13.5	13.7	9.4	8.5	3.6	-1.0	-12.7	-27.4	-42.9	-64.7		
HVAC	Ldn	26.4	-24.9	-18.8	-14.8	-1.9	3.1	-2.9	6.9	8.8	7.7	9.0	9.0	10.9	12.3	13.3	17.2	18.9	14.8	16.6	17.4	14.9	15.2	11.1	10.4	5.8	1.8	-9.1	-22.6	-36.5	-56.3		
HVAC	Ldn	28.3	-23.9	-17.9	-13.9	-0.9	4.1	-1.9	7.9	9.8	8.7	10.0	10.0	12.0	13.4	14.4	18.3	20.0	15.9	19.1	20.0	17.6	18.0	14.0	13.6	9.2	5.6	-4.9	-17.9	-30.6	-48.7		
HVAC	Ldn	23.5	-25.4	-19.5	-15.6	-2.8	2.0	-4.1	5.3	7.1	5.8	7.0	6.8	8.6	9.9	10.7	14.5	16.1	11.8	13.5	14.1	11.4	11.3	6.7	5.3	-0.4	-6.0	-19.3	-36.3	-55.0	-81.1		
HVAC	Ldn	23.9	-25.3	-19.4	-15.6	-2.8	2.0	-4.1	5.3	7.1	5.9	7.1	7.0	8.8	10.2	11.1	14.9	16.6	12.3	14.0	14.7	12.0	12.1	7.5	6.3	0.9	-4.4	-17.1	-33.3	-50.9	-75.5		
HVAC	Ldn	24.3	-26.7	-20.7	-16.7	-3.7	1.3	-4.7	4.9	6.8	5.7	7.0	7.0	8.9	10.4	11.3	15.2	16.9	12.7	14.4	15.2	12.6	12.7	8.2	7.1	1.9	-3.1	-15.4	-31.0	-47.7	-71.2		
Playground	Ldn	26.5	-57.5	-47.7	-38.8	-31.3	-24.3	-20.5	-14.5	-8.0	-4.7	-0.2	3.5	8.6	11.8	13.5	17.4	19.3	19.6	18.4	16.9	14.5	11.6	8.8	4.4	-3.0	-11.2	-21.0					
Playground	Ldn	29.6	-57.0	-47.2	-38.2	-30.6	-23.4	-19.5	-13.3	-6.7	-3.1	1.5	5.5	10.9	14.2	16.2	20.3	22.3	22.8	21.7	20.1	17.7	14.8	12.0	7.3	-0.3	-8.9	-19.2					
Playground	Ldn	13.3	-62.1	-52.6	-44.0	-36.9	-30.4	-27.3	-22.0	-16.2	-13.9	-10.3	-7.4	-3.8	-1.5	0.4	3.9	4.9	7.3	5.6	3.6	0.8	-3.3	-7.5	-13.4	-22.4	-32.3	-44.1					
Playground	Ldn	18.1	-60.7	-51.1	-42.2	-34.9	-27.9	-24.7	-18.9	-12.7	-9.9	-5.8	-2.5	1.4	4.0	5.2	9.2	10.8	11.1	10.2	8.4	5.3	1.3	-3.2	-9.9	-20.0	-32.5	-48.2					
Soccer Game	Ldn	42.3							21.5	22.9	23.1	21.0	21.6	23.4	24.2	25.1	27.8	33.0	32.6	31.8	35.2	29.5	31.3	34.8	28.5	17.8	12.6	4.9	-3.6				
TetherBall	Ldn	18.7														18.7																	
TetherBall	Ldn	19.9														19.9																	
TetherBall	Ldn	22.1														22.1																	
TetherBall	Ldn	31.6														31.6																	
TetherBall	Ldn	30.9														30.9																	

Gantner Elementary Noise Contribution spectra - 001 - Gantner Elementary - CNEL: Outdoor SP

23

Source	Time slice	Sum	25Hz	31.5Hz	40Hz	50Hz	63Hz	80Hz	100Hz	125Hz	160Hz	200Hz	250Hz	315Hz	400Hz	500Hz	630Hz	800Hz	1kHz	1.25kHz	1.6kHz	2kHz	2.5kHz	3.15kHz	4kHz	5kHz	6.3kHz	8kHz	10kHz	12.5kHz	16kHz		
		dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)		
TetherBall	Ldn	32.3														32.3																	
TetherBall	Ldn	31.5														31.5																	
TetherBall	Ldn	26.0														26.0																	
TetherBall	Ldn	30.2														30.2																	
TetherBall	Ldn	25.6														25.6																	
TetherBall	Ldn	24.0														24.0																	
TetherBall	Ldn	23.6														23.6																	
TetherBall	Ldn	26.6														26.6																	
TetherBall	Ldn	26.3														26.3																	
TetherBall	Ldn	25.9														25.9																	
Receiver R6		FI G	dB(A) Ldn 53.8 dB(A)																														
Auto Parking	Ldn	44.8					28.5			39.3			30.1			36.0			38.2			38.5			33.9			20.9					-9.0
Auto Parking	Ldn	28.8					17.8			26.8			15.6			18.8			18.1			15.5			4.4			-26.3					
BasketBall	Ldn	29.1													29.1																		
BasketBall	Ldn	27.6													27.6																		
BasketBall	Ldn	35.7													35.7																		
BasketBall	Ldn	38.7													38.7																		
Car Lane	Ldn	40.7	14.7	-2.3	3.7	18.7	19.7	21.7	18.9	22.8	19.8	23.9	19.0	21.0	25.1	25.3	29.6	29.4	29.6	30.6	29.1	32.0	32.9	29.5	26.9	23.0	18.5	14.1	7.6	1.0	-6.8		
Car Lane	Ldn	30.0	9.1	-8.0	-2.1	12.7	13.5	15.3	11.6	15.3	12.0	15.2	10.0	11.7	15.5	15.2	19.0	19.1	18.8	19.6	18.4	20.8	21.0	16.7	12.9	7.3	-0.6	-10.4	-24.6	-42.0	-64.5		
HVAC	Ldn	23.2	-27.9	-21.8	-17.8	-4.8	0.1	-5.9	3.8	5.7	4.6	5.9	5.9	7.9	9.3	10.2	14.1	15.9	11.7	13.5	14.2	11.6	11.7	7.2	6.0	0.5	-4.9	-17.9	-34.7	-53.0	-78.8		
HVAC	Ldn	23.6	-28.0	-22.0	-18.0	-5.0	0.0	-6.0	3.7	5.6	4.5	5.8	5.9	7.8	9.3	10.3	14.2	16.0	11.9	13.8	14.7	12.3	12.7	8.5	7.8	3.0	-1.3	-13.8	-30.8	-49.4	-75.7		
HVAC	Ldn	28.1	-25.8	-19.8	-15.8	-2.8	2.2	-3.8	5.9	7.8	6.8	8.1	8.2	10.2	11.8	12.9	16.9	18.9	15.0	17.1	18.5	18.9	20.4	16.7	15.9	11.0	6.4	-5.2	-19.9	-35.2	-56.8		
HVAC	Ldn	26.3	-26.8	-20.7	-16.7	-3.7	1.2	-4.8	4.9	6.9	5.8	7.1	7.2	9.2	10.7	11.7	15.7	17.6	13.6	15.6	16.6	16.6	17.4	14.8	14.4	9.5	4.4	-8.1	-23.8	-40.6	-64.1		
HVAC	Ldn	24.7	-27.3	-21.2	-17.2	-4.2	0.7	-5.3	4.4	6.3	5.3	6.6	6.6	8.6	10.1	11.1	15.1	16.9	12.9	14.8	15.8	13.5	14.1	10.2	9.9	5.9	1.4	-11.1	-27.1	-44.4	-68.9		
HVAC	Ldn	22.7	-28.3	-22.3	-18.3	-5.3	-0.3	-6.4	3.3	5.2	4.1	5.4	5.4	7.4	8.8	9.7	13.6	15.4	11.2	12.9	13.7	11.0	11.1	6.5	5.2	-0.5	-6.2	-19.7	-37.1	-56.3	-83.3		
HVAC	Ldn	23.8	-27.6	-21.5	-17.6	-4.6	0.4	-5.6	4.0	6.0	4.9	6.2	6.2	8.2	9.6	10.6	14.5	16.3	12.2	14.0	14.8	12.3	12.5	8.2	7.2	2.0	-2.9	-15.3	-31.2	-48.2	-72.1		
HVAC	Ldn	25.8	-26.8	-20.7	-16.7	-3.7	1.2	-4.8	4.9	6.9	5.8	7.2	7.2	9.2	10.7	11.8	15.8	17.7	13.7	15.8	17.0	14.9	15.9	12.7	12.6	7.5	2.7	-9.4	-24.8	-41.3	-64.6		
HVAC	Ldn	26.3	-26.4	-20.4	-16.4	-3.4	1.6	-4.4	5.3	7.2	6.2	7.5	7.6	9.6	11.1	12.2	16.2	18.1	14.2	16.3	17.5	15.5	16.5	13.5	13.2	8.2	3.6	-8.2	-23.2	-39.1	-61.6		
HVAC	Ldn	23.9	-27.3	-21.3	-17.3	-4.3	0.7	-5.3	4.4	6.3	5.2	6.5	6.5	8.4	9.8	10.8	14.7	16.4	12.3	14.1	14.8	12.3	12.4	8.0	6.9	3.0	-2.3	-15.2	-31.6	-49.1	-73.7		
HVAC	Ldn	28.1	-25.6	-19.6	-15.6	-2.6	2.4	-3.6	6.2	8.1	7.1	8.5	8.6	10.6	12.2	13.3	17.4	19.4	15.6	18.0	19.6	18.3	19.3	15.2	14.5	9.8	5.6	-5.7	-19.7	-34.4	-55.3		
HVAC	Ldn	26.4	-26.6	-20.5	-16.6	-3.6	1.4	-4.6	5.2	7.1	6.1	7.4	7.4	9.4	10.9	11.9	15.9	17.8	13.8	15.9	17.0	14.9	18.1	14.5	14.4	9.3	4.4	-7.9	-23.4	-39.8	-62.8		
HVAC	Ldn	24.9	-27.4	-21.4	-17.4	-4.4	0.5	-5.4	4.3	6.2	5.2	6.5	6.5	8.5	9.9	10.9	14.9	16.8	12.7	14.7	15.6	13.4	15.5	12.6	11.7	7.1	2.0	-10.8	-27.3	-45.2	-70.2		
HVAC	Ldn	23.9	-27.3	-21.3	-17.3	-4.3	0.7	-5.3	4.4	6.3	5.2	6.5	6.5	8.5	9.9	10.8	14.7	16.5	12.3	14.1	14.9	12.3	12.5	8.1	7.0	1.7	-3.3	-15.9	-31.9	-49.2	-73.6		
HVAC	Ldn	26.7	-24.6	-18.6	-14.6	-1.6	3.4	-2.6	7.0	9.0	7.9	9.2	9.2	11.1	12.5	13.5	17.4	19.1	14.9	16.7	17.4	15.9	16.0	11.8	10.5	4.9	-0.6	-13.7	-30.4	-48.6	-74.1		

Gantner Elementary Noise Contribution spectra - 001 - Gantner Elementary - CNEL: Outdoor SP

23

Source	Time slice	Sum	25Hz	31.5Hz	40Hz	50Hz	63Hz	80Hz	100Hz	125Hz	160Hz	200Hz	250Hz	315Hz	400Hz	500Hz	630Hz	800Hz	1kHz	1.25kHz	1.6kHz	2kHz	2.5kHz	3.15kHz	4kHz	5kHz	6.3kHz	8kHz	10kHz	12.5kHz	16kHz	
		dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
HVAC	Ldn	29.1	-24.8	-18.8	-14.8	-1.8	3.2	-2.8	6.9	8.9	7.9	9.3	9.4	11.4	13.0	14.1	18.3	20.3	16.6	19.0	20.7	19.6	20.3	16.2	15.6	11.2	7.3	-3.4	-16.7	-30.4	-49.8	
HVAC	Ldn	29.3	-25.0	-18.9	-14.9	-1.9	3.1	-2.9	6.9	8.8	7.8	9.2	9.3	11.4	13.0	14.2	18.4	20.5	16.9	19.5	21.6	19.8	20.1	16.1	15.5	10.9	7.1	-3.7	-17.2	-31.0	-50.7	
HVAC	Ldn	27.8	-25.7	-19.7	-15.7	-2.7	2.3	-3.7	6.0	8.0	6.9	8.3	8.4	10.4	12.0	13.1	17.2	19.2	15.4	17.7	19.2	17.8	19.2	15.0	14.3	9.5	5.3	-6.1	-20.3	-35.1	-56.3	
HVAC	Ldn	25.2	-26.2	-20.1	-16.1	-3.1	1.8	-4.2	5.5	7.4	6.4	7.7	7.7	9.6	11.0	12.0	15.9	17.7	13.5	15.3	16.1	13.6	13.9	9.7	8.8	3.9	-0.5	-12.1	-26.8	-42.3	-64.2	
HVAC	Ldn	30.4	-25.2	-19.1	-15.1	-2.1	2.9	-3.0	6.8	8.8	7.9	9.4	9.7	12.0	14.0	15.8	20.9	23.3	19.2	21.0	21.9	19.4	19.9	15.7	15.0	10.4	6.3	-4.7	-18.5	-32.7	-53.0	
HVAC	Ldn	28.1	-23.6	-17.6	-13.6	-0.6	4.4	-1.6	8.1	10.1	9.0	10.3	10.3	12.3	13.7	14.7	18.6	20.4	16.3	18.2	19.1	16.7	17.2	13.4	13.1	9.0	5.8	-4.0	-16.0	-27.8	-44.8	
HVAC	Ldn	23.8	-27.4	-21.4	-17.4	-4.4	0.6	-5.4	4.2	6.2	5.1	6.4	6.4	8.3	9.8	10.7	14.6	16.4	12.2	14.0	14.8	12.3	12.4	8.1	7.0	1.8	-3.3	-15.8	-31.8	-49.2	-73.6	
HVAC	Ldn	29.0	-26.5	-20.4	-16.4	-3.3	1.7	-4.3	5.5	7.5	6.6	8.2	8.5	10.8	12.8	14.7	19.9	22.0	17.8	19.6	20.4	17.9	18.1	13.8	12.9	7.9	3.2	-8.7	-23.9	-40.0	-62.8	
HVAC	Ldn	29.7	-25.9	-19.8	-15.8	-2.8	2.2	-3.7	6.1	8.1	7.2	8.7	9.0	11.4	13.4	15.1	20.3	22.6	18.5	20.3	21.1	19.0	19.2	15.0	14.1	9.2	4.8	-6.8	-21.3	-36.5	-58.1	
HVAC	Ldn	32.9	-23.1	-17.0	-13.0	0.1	5.1	-0.8	9.1	11.2	10.3	11.9	12.3	14.8	17.0	19.3	23.8	25.5	21.4	23.3	24.2	21.8	22.3	18.4	18.1	14.0	10.9	1.1	-10.8	-22.4	-39.2	
HVAC	Ldn	29.3	-24.0	-17.9	-13.9	-0.9	4.0	-1.9	7.8	9.8	8.7	10.1	10.2	12.2	13.7	14.8	18.8	20.8	16.9	19.0	20.4	18.6	19.9	17.4	17.0	12.8	9.3	-0.9	-13.4	-25.9	-43.9	
HVAC	Ldn	27.4	-24.2	-18.1	-14.1	-1.1	3.8	-2.2	7.6	9.5	8.4	9.7	9.8	11.7	13.1	14.1	18.0	19.8	15.7	17.5	18.4	16.0	16.5	12.5	12.1	7.8	4.3	-5.9	-18.5	-31.1	-49.3	
HVAC	Ldn	34.2	-21.9	-15.9	-11.8	1.2	6.3	0.4	10.3	12.4	11.5	13.1	13.6	16.1	18.3	20.7	25.0	26.7	22.6	24.5	25.4	23.3	23.8	20.0	19.8	16.0	13.2	4.0	-7.0	-17.5	-32.7	
HVAC	Ldn	32.4	-23.1	-17.1	-13.1	0.0	5.0	-1.0	8.9	10.9	10.0	11.4	11.7	13.9	15.7	17.2	21.9	24.8	21.4	23.3	24.2	21.8	22.3	18.4	18.1	14.1	10.9	1.2	-10.7	-22.3	-39.1	
HVAC	Ldn	33.4	-22.5	-16.5	-12.5	0.6	5.6	-0.3	9.6	11.7	10.8	12.4	12.7	15.1	17.2	19.2	24.4	26.1	22.0	23.9	24.8	22.4	22.9	19.1	18.9	15.0	12.0	2.6	-8.9	-19.9	-35.9	
HVAC	Ldn	23.3	-27.8	-21.7	-17.7	-4.8	0.2	-5.8	3.8	5.7	4.6	5.9	5.9	7.8	9.3	10.3	14.2	15.9	11.7	13.5	14.3	11.6	11.7	7.3	6.0	0.5	-4.9	-18.0	-34.8	-53.2	-79.1	
HVAC	Ldn	23.7	-27.5	-21.4	-17.5	-4.5	0.5	-5.5	4.1	6.0	4.9	6.2	6.3	8.2	9.7	10.6	14.5	16.3	12.1	13.9	14.6	12.0	12.2	7.8	6.6	1.3	-3.9	-16.6	-32.9	-50.6	-75.5	
HVAC	Ldn	23.1	-27.9	-21.9	-17.9	-4.9	0.0	-6.0	3.6	5.5	4.5	5.7	5.8	7.7	9.2	10.1	14.0	15.8	11.6	13.3	14.1	11.5	11.6	7.1	5.8	0.2	-5.2	-18.4	-35.3	-53.8	-79.9	
HVAC	Ldn	22.5	-28.5	-22.5	-18.5	-5.5	-0.6	-6.6	3.1	5.0	3.9	5.2	5.2	7.1	8.6	9.5	13.4	15.1	11.0	12.7	13.4	10.8	10.8	6.2	4.8	-1.0	-6.8	-20.5	-38.2	-57.9	-85.4	
HVAC	Ldn	22.8	-28.2	-22.2	-18.2	-5.2	-0.2	-6.2	3.3	5.3	4.2	5.5	5.5	7.4	8.9	9.9	13.7	15.5	11.3	13.0	13.8	11.1	11.2	6.6	5.3	-0.4	-6.1	-19.5	-36.9	-56.1	-83.0	
HVAC	Ldn	22.6	-28.3	-22.3	-18.3	-5.3	-0.4	-6.4	3.2	5.1	4.0	5.3	5.3	7.3	8.7	9.7	13.6	15.3	11.1	12.9	13.6	10.9	11.0	6.4	5.0	-0.8	-6.6	-20.2	-37.8	-57.4	-84.8	
HVAC	Ldn	22.0	-28.9	-22.8	-18.9	-5.9	-0.9	-6.9	2.6	4.6	3.5	4.8	4.8	6.7	8.2	9.1	13.0	14.7	10.5	12.2	12.9	10.2	10.2	5.5	3.9	-2.1	-8.3	-22.5	-41.0	-61.7	-90.6	
HVAC	Ldn	22.5	-28.5	-22.4	-18.4	-5.5	-0.5	-6.5	3.2	5.1	4.0	5.3	5.3	7.2	8.6	9.6	13.5	15.2	11.0	12.7	13.5	10.8	10.8	6.2	4.8	-1.0	-6.8	-20.5	-38.1	-57.7	-85.2	
HVAC	Ldn	23.1	-28.0	-22.0	-18.0	-5.0	0.0	-6.0	3.6	5.6	4.5	5.8	5.8	7.7	9.1	10.1	14.0	15.7	11.5	13.3	14.0	11.4	11.5	7.0	5.7	0.1	-5.4	-18.6	-35.5	-54.2	-80.3	
HVAC	Ldn	21.1	-29.6	-23.6	-19.6	-6.6	-1.6	-7.7	1.8	3.8	2.7	4.0	4.0	5.9	7.3	8.3	12.1	13.8	9.6	11.3	12.0	9.2	9.0	4.1	2.2	-4.3	-11.3	-26.6	-46.7	-69.8		
HVAC	Ldn	21.4	-29.3	-23.2	-19.3	-6.3	-1.3	-7.3	2.2	4.1	3.0	4.3	4.3	6.2	7.7	8.6	12.5	14.2	10.0	11.7	12.3	9.5	9.4	4.6	2.8	-3.6	-10.3	-25.3	-44.8	-67.0	-98.0	
HVAC	Ldn	21.7	-29.0	-23.0	-19.0	-6.0	-1.1	-7.1	2.4	4.3	3.2	4.6	4.6	6.5	7.9	8.9	12.7	14.5	10.2	11.9	12.6	9.9	9.8	5.0	3.3	-2.9	-9.4	-24.1	-43.1	-64.8	-94.9	
Playground	Ldn	29.4	-57.4	-47.6	-38.6	-31.0	-23.8	-19.9	-13.7	-7.1	-3.5	1.2	5.1	10.5	13.9	15.8	19.9	21.9	22.6	21.4	19.8	17.8	15.2	12.4	7.8	0.3	-8.2	-18.3				
Playground	Ldn	13.9	-64.5	-54.9	-46.1	-38.8	-32.1	-29.0	-23.4	-17.4	-14.8	-10.9	-7.7	-3.9	-1.1	1.5	5.4	7.4	6.9	5.4	4.1	0.5	-3.9	-8.9	-16.2	-27.3	-40.5	-56.8				
Playground	Ldn	14.1	-63.6	-54.2	-45.7	-38.7	-32.1	-29.3	-23.9	-17.9	-15.3	-11.5	-8.4	-4.6	-1.4	0.1	4.9	6.1	7.5	7.2	5.0	1.2	-3.6	-9.0	-17.0	-29.3	-44.3	-63.3				
Soccer Game	Ldn	51.5							30.0	31.4	31.6	30.6	31.2	33.0	34.0	34.9	37.7	42.0	41.6	40.8	44.0	38.4	40.4	44.3	39.0	29.7	26.6	22.1	18.1			
TetherBall	Ldn	24.2														24.2																
TetherBall	Ldn	24.8														24.8																
TetherBall	Ldn	29.0														29.0																

Gantner Elementary Noise Contribution spectra - 001 - Gantner Elementary - CNEL: Outdoor SP

23

Source	Time slice	Sum	25Hz	31.5Hz	40Hz	50Hz	63Hz	80Hz	100Hz	125Hz	160Hz	200Hz	250Hz	315Hz	400Hz	500Hz	630Hz	800Hz	1kHz	1.25kHz	1.6kHz	2kHz	2.5kHz	3.15kHz	4kHz	5kHz	6.3kHz	8kHz	10kHz	12.5kHz	16kHz	
		dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	
TetherBall	Ldn	33.8														33.8																
TetherBall	Ldn	32.8														32.8																
TetherBall	Ldn	30.9														30.9																
TetherBall	Ldn	30.2														30.2																
TetherBall	Ldn	29.6														29.6																
TetherBall	Ldn	31.9														31.9																
TetherBall	Ldn	28.1														28.1																
TetherBall	Ldn	26.4														26.4																
TetherBall	Ldn	25.7														25.7																
TetherBall	Ldn	30.1														30.1																
TetherBall	Ldn	30.0														30.0																
TetherBall	Ldn	28.2														28.2																

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**Gantner Elementary Noise
Assessed contribution level - 001 - Gantner Elementary -**

9

Source	Source type	Ldn dB(A)
Receiver R1 FIG dB(A) Ldn 58.7 dB(A)		
Soccer Game	Area	56.7
TetherBall	Point	47.1
BasketBall	Point	45.6
HVAC	Point	43.5
TetherBall	Point	43.3
HVAC	Point	41.7
TetherBall	Point	41.3
TetherBall	Point	40.8
Playground	Area	39.7
Auto Parking	PLot	39.3
TetherBall	Point	38.8
BasketBall	Point	38.6
HVAC	Point	37.9
Playground	Area	37.6
TetherBall	Point	37.3
TetherBall	Point	37.1
HVAC	Point	37.1
Car Lane	Line	36.7
BasketBall	Point	35.6
TetherBall	Point	34.8
BasketBall	Point	34.0
HVAC	Point	33.8
HVAC	Point	33.4
HVAC	Point	32.7
HVAC	Point	32.3
HVAC	Point	32.1
HVAC	Point	31.9
TetherBall	Point	31.8
TetherBall	Point	31.6
TetherBall	Point	31.5
TetherBall	Point	31.4
TetherBall	Point	31.3
TetherBall	Point	31.2
TetherBall	Point	30.7
Auto Parking	PLot	30.6
HVAC	Point	30.1
HVAC	Point	29.9
HVAC	Point	29.4
HVAC	Point	29.2
HVAC	Point	29.0
HVAC	Point	29.0
HVAC	Point	28.9
HVAC	Point	27.7
HVAC	Point	27.5

MD Acoustics LLC 4960 S Gilbert Rd Chandler AZ 85249 USA

1

**Gantner Elementary Noise
Assessed contribution level - 001 - Gantner Elementary -**

9

Source	Source type	Ldn dB(A)
Car Lane	Line	27.4
HVAC	Point	27.2
HVAC	Point	27.1
HVAC	Point	26.8
Playground	Area	25.6
HVAC	Point	25.6
HVAC	Point	25.4
HVAC	Point	24.9
HVAC	Point	24.6
HVAC	Point	24.3
HVAC	Point	24.3
HVAC	Point	24.2
HVAC	Point	23.9
HVAC	Point	23.4
HVAC	Point	23.0
HVAC	Point	22.8
HVAC	Point	22.7
HVAC	Point	22.7
HVAC	Point	22.6
HVAC	Point	22.5
HVAC	Point	21.9
HVAC	Point	20.9
HVAC	Point	20.6
HVAC	Point	20.4
HVAC	Point	18.9
Playground	Area	13.4
Receiver R2 FI G dB(A) Ldn 53.2 dB(A)		
HVAC	Point	46.4
HVAC	Point	45.1
BasketBall	Point	44.3
HVAC	Point	44.2
HVAC	Point	41.2
TetherBall	Point	39.5
BasketBall	Point	39.0
HVAC	Point	38.4
TetherBall	Point	37.7
HVAC	Point	36.1
TetherBall	Point	35.6
Soccer Game	Area	35.5
HVAC	Point	34.4
HVAC	Point	34.1
TetherBall	Point	33.9
HVAC	Point	33.5
HVAC	Point	30.9
HVAC	Point	30.9

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2

**Gantner Elementary Noise
Assessed contribution level - 001 - Gantner Elementary -**

9

Source	Source type	Ldn dB(A)
	HVAC Point	30.5
	HVAC Point	29.9
	HVAC Point	29.5
	Auto Parking PLOT	29.4
	HVAC Point	29.1
	HVAC Point	28.7
	HVAC Point	28.2
	HVAC Point	28.2
	HVAC Point	28.0
	Auto Parking PLOT	27.9
	Playground Area	27.4
	HVAC Point	27.4
	HVAC Point	27.4
	Car Lane Line	26.7
	HVAC Point	25.9
	HVAC Point	25.7
	HVAC Point	24.8
	HVAC Point	24.4
	HVAC Point	24.3
	HVAC Point	23.4
	HVAC Point	22.7
	Car Lane Line	21.1
	TetherBall Point	20.8
	BasketBall Point	20.0
	BasketBall Point	19.3
	TetherBall Point	18.8
	HVAC Point	18.8
	HVAC Point	18.8
	TetherBall Point	18.7
	HVAC Point	18.6
	TetherBall Point	18.3
	TetherBall Point	18.1
	HVAC Point	17.7
	HVAC Point	17.5
	TetherBall Point	17.5
	HVAC Point	17.4
	HVAC Point	17.4
	Playground Area	17.3
	TetherBall Point	17.2
	TetherBall Point	17.1
	TetherBall Point	16.8
	TetherBall Point	16.7
	HVAC Point	16.7
	HVAC Point	16.6
	HVAC Point	16.5

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3

**Gantner Elementary Noise
Assessed contribution level - 001 - Gantner Elementary -**

9

Source	Source type	Ldn dB(A)	
TetherBall	Point	16.5	
HVAC	Point	16.3	
Playground	Area	16.0	
HVAC	Point	15.8	
HVAC	Point	15.6	
HVAC	Point	15.4	
Playground	Area	10.4	
Receiver R3 FIG dB(A) Ldn 49.5 dB(A)			
	HVAC Point	39.0	
	HVAC Point	38.5	
	HVAC Point	37.8	
	HVAC Point	37.3	
Auto Parking	PLot	36.9	
	HVAC Point	36.7	
Playground	Area	36.5	
	HVAC Point	36.4	
	HVAC Point	35.5	
	HVAC Point	34.4	
	HVAC Point	34.1	
	HVAC Point	34.1	
	HVAC Point	33.8	
Car Lane	Line	33.6	
	HVAC Point	32.9	
	HVAC Point	32.1	
	HVAC Point	31.9	
	HVAC Point	31.7	
	HVAC Point	31.7	
	HVAC Point	31.5	
	HVAC Point	31.3	
	HVAC Point	30.6	
	HVAC Point	30.4	
	HVAC Point	30.3	
	HVAC Point	30.1	
	HVAC Point	29.8	
Auto Parking	PLot	29.8	
	HVAC Point	29.7	
Soccer Game	Area	28.7	
	HVAC Point	28.5	
	HVAC Point	28.5	
	HVAC Point	27.6	
	HVAC Point	27.4	
	HVAC Point	27.3	
	HVAC Point	26.8	
	HVAC Point	26.8	
	HVAC Point	26.6	

**Gantner Elementary Noise
Assessed contribution level - 001 - Gantner Elementary -**

9

Source	Source type	Ldn dB(A)
	HVAC Point	26.4
	HVAC Point	26.3
	HVAC Point	26.0
	HVAC Point	25.1
	HVAC Point	25.1
	TetherBall Point	25.1
	HVAC Point	25.0
	HVAC Point	24.9
	HVAC Point	24.9
	HVAC Point	24.8
	HVAC Point	24.5
	Playground Area	23.9
	BasketBall Point	23.0
	Car Lane Line	22.6
	BasketBall Point	21.4
	BasketBall Point	21.1
	TetherBall Point	20.4
	TetherBall Point	19.2
	BasketBall Point	18.3
	TetherBall Point	18.3
	TetherBall Point	18.1
	TetherBall Point	18.1
	TetherBall Point	18.0
	TetherBall Point	18.0
	TetherBall Point	17.0
	Playground Area	16.9
	TetherBall Point	16.7
	TetherBall Point	16.7
	TetherBall Point	15.6
	TetherBall Point	15.5
	Playground Area	14.5
	TetherBall Point	14.2
	TetherBall Point	14.1
Receiver R4 FIG dB(A) Ldn 57.2 dB(A)		
	Auto Parking PLOT	55.7
	Car Lane Line	49.0
	HVAC Point	39.5
	HVAC Point	39.5
	HVAC Point	38.5
	HVAC Point	38.3
	HVAC Point	37.7
	HVAC Point	36.6
	HVAC Point	36.4
	Auto Parking PLOT	34.5
	HVAC Point	33.8

**Gantner Elementary Noise
Assessed contribution level - 001 - Gantner Elementary -**

9

Source	Source type	Ldn dB(A)
	HVAC Point	33.1
Soccer Game	Area	31.0
Playground	Area	30.6
	HVAC Point	29.8
Car Lane	Line	29.8
	HVAC Point	29.2
	HVAC Point	29.1
	HVAC Point	29.1
	HVAC Point	28.4
	HVAC Point	28.2
	HVAC Point	28.1
	HVAC Point	27.3
	HVAC Point	27.0
	HVAC Point	26.5
	HVAC Point	26.2
	HVAC Point	26.0
	HVAC Point	25.9
	HVAC Point	25.7
	HVAC Point	25.6
	HVAC Point	25.5
	HVAC Point	25.0
	HVAC Point	24.8
	HVAC Point	24.6
	HVAC Point	24.4
	HVAC Point	24.3
	HVAC Point	24.1
	HVAC Point	23.7
	HVAC Point	23.7
	HVAC Point	23.3
	HVAC Point	23.0
	HVAC Point	22.9
TetherBall	Point	22.9
	HVAC Point	22.7
TetherBall	Point	22.6
TetherBall	Point	22.3
	HVAC Point	22.2
	HVAC Point	22.1
TetherBall	Point	22.0
	HVAC Point	21.7
	HVAC Point	21.3
BasketBall	Point	21.2
	HVAC Point	21.0
BasketBall	Point	21.0
Playground	Area	19.4
Playground	Area	18.1

MD Acoustics LLC 4960 S Gilbert Rd Chandler AZ 85249 USA

6

**Gantner Elementary Noise
Assessed contribution level - 001 - Gantner Elementary -**

9

Source	Source type	Ldn dB(A)
TetherBall	Point	18.0
TetherBall	Point	17.9
BasketBall	Point	17.9
TetherBall	Point	17.7
TetherBall	Point	15.4
TetherBall	Point	15.1
TetherBall	Point	15.0
Playground	Area	14.9
TetherBall	Point	14.9
BasketBall	Point	14.9
TetherBall	Point	14.8
TetherBall	Point	14.7
TetherBall	Point	14.5
TetherBall	Point	14.3
Receiver R5 FI G dB(A) Ldn 55.6 dB(A)		
Auto Parking	PLot	53.8
Car Lane	Line	44.6
Soccer Game	Area	42.3
HVAC	Point	38.7
Car Lane	Line	38.3
HVAC	Point	38.2
HVAC	Point	37.5
HVAC	Point	37.2
HVAC	Point	36.7
HVAC	Point	36.6
HVAC	Point	35.7
BasketBall	Point	34.2
HVAC	Point	33.7
BasketBall	Point	32.7
TetherBall	Point	32.3
Auto Parking	PLot	32.1
HVAC	Point	31.7
TetherBall	Point	31.6
TetherBall	Point	31.5
HVAC	Point	31.3
TetherBall	Point	30.9
HVAC	Point	30.3
TetherBall	Point	30.2
Playground	Area	29.6
HVAC	Point	29.1
HVAC	Point	28.3
HVAC	Point	27.9
HVAC	Point	27.8
HVAC	Point	26.9
HVAC	Point	26.8

MD Acoustics LLC 4960 S Gilbert Rd Chandler AZ 85249 USA

7

**Gantner Elementary Noise
Assessed contribution level - 001 - Gantner Elementary -**

9

Source	Source type	Ldn dB(A)
TetherBall	Point	26.6
Playground	Area	26.5
HVAC	Point	26.5
HVAC	Point	26.4
TetherBall	Point	26.3
TetherBall	Point	26.0
TetherBall	Point	25.9
BasketBall	Point	25.8
TetherBall	Point	25.6
HVAC	Point	25.6
HVAC	Point	25.5
HVAC	Point	25.5
HVAC	Point	25.4
HVAC	Point	25.3
HVAC	Point	25.2
HVAC	Point	25.1
HVAC	Point	24.7
HVAC	Point	24.4
HVAC	Point	24.3
HVAC	Point	24.2
HVAC	Point	24.2
HVAC	Point	24.1
HVAC	Point	24.1
TetherBall	Point	24.0
HVAC	Point	23.9
HVAC	Point	23.7
TetherBall	Point	23.6
HVAC	Point	23.5
HVAC	Point	23.5
HVAC	Point	23.4
HVAC	Point	23.3
HVAC	Point	23.2
HVAC	Point	23.2
HVAC	Point	23.1
TetherBall	Point	22.1
BasketBall	Point	20.3
TetherBall	Point	19.9
TetherBall	Point	18.7
Playground	Area	18.1
Playground	Area	13.3
Receiver R6 FI G dB(A) Ldn 53.8 dB(A)		
Soccer Game	Area	51.5
Auto Parking	PLot	44.8
Car Lane	Line	40.7
BasketBall	Point	38.7

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8

**Gantner Elementary Noise
Assessed contribution level - 001 - Gantner Elementary -**

9

Source	Source type	Ldn dB(A)
BasketBall	Point	35.7
HVAC	Point	34.2
TetherBall	Point	33.8
HVAC	Point	33.4
HVAC	Point	32.9
TetherBall	Point	32.8
HVAC	Point	32.4
TetherBall	Point	31.9
Playground	Area	30.9
TetherBall	Point	30.9
HVAC	Point	30.4
TetherBall	Point	30.2
TetherBall	Point	30.1
TetherBall	Point	30.0
Car Lane	Line	30.0
HVAC	Point	29.7
TetherBall	Point	29.6
Playground	Area	29.4
HVAC	Point	29.3
HVAC	Point	29.3
HVAC	Point	29.1
BasketBall	Point	29.1
TetherBall	Point	29.0
HVAC	Point	29.0
Auto Parking	PLot	28.8
TetherBall	Point	28.2
HVAC	Point	28.1
HVAC	Point	28.1
TetherBall	Point	28.1
HVAC	Point	28.1
HVAC	Point	27.8
BasketBall	Point	27.6
HVAC	Point	27.4
HVAC	Point	26.7
HVAC	Point	26.4
TetherBall	Point	26.4
HVAC	Point	26.3
HVAC	Point	26.3
HVAC	Point	25.8
TetherBall	Point	25.7
HVAC	Point	25.2
HVAC	Point	24.9
TetherBall	Point	24.8
HVAC	Point	24.7
TetherBall	Point	24.2

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9

**Gantner Elementary Noise
Assessed contribution level - 001 - Gantner Elementary -**

Source	Source type	Ldn dB(A)
	HVAC Point	23.9
	HVAC Point	23.9
	HVAC Point	23.8
	HVAC Point	23.8
	HVAC Point	23.7
	HVAC Point	23.6
	HVAC Point	23.3
	HVAC Point	23.2
	HVAC Point	23.1
	HVAC Point	23.1
	HVAC Point	22.8
	HVAC Point	22.7
	HVAC Point	22.6
	HVAC Point	22.5
	HVAC Point	22.5
	HVAC Point	22.0
	HVAC Point	21.7
	HVAC Point	21.4
	HVAC Point	21.1
	Playground Area	14.1
	Playground Area	13.9

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Gantner Elementary Noise

Octave spectra of the sources in dB(A) - 001 - Gantner Elementary - CNEL: Outdoor SP

3

Name	Source type	l or A	Li	Rw	L'w	Lw	Kl	KT	DO-Wall	Emission spectrum	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz	16kHz
		m,m ²	dB(A)	dB	dB(A)	dB(A)	dB	dB	dB		dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
Auto Parking	PLot	1530.92			55.9	87.8	0.0	0.0	0	Typical spectrum	71.1	82.7	75.2	79.7	79.8	80.2	77.5	71.3	58.5
Auto Parking	PLot	1531.07			56.2	88.0	0.0	0.0	0	Typical spectrum	71.4	83.0	75.5	80.0	80.1	80.5	77.8	71.6	58.8
BasketBall	Point				87.0	87.0	0.0	0.0	0	Street basketball				87.0					
BasketBall	Point				87.0	87.0	0.0	0.0	0	Street basketball				87.0					
BasketBall	Point				87.0	87.0	0.0	0.0	0	Street basketball				87.0					
BasketBall	Point				87.0	87.0	0.0	0.0	0	Street basketball				87.0					
Car Lane	Line	148.66			62.8	84.5	0.0	0.0	0	Carwash - Drive-Thru - Idling Car @ 6ft	68.2	69.7	72.5	77.4	78.0	79.3	75.8	67.8	61.2
Car Lane	Line	286.51			62.8	87.4	0.0	0.0	0	Carwash - Drive-Thru - Idling Car @ 6ft	71.0	72.5	75.3	80.3	80.9	82.2	78.6	70.6	64.0
HVAC	Point				78.0	78.0	0.0	0.0	0	HVAC: 67.7dB @ 3ft - Carrier 50TFQ0006 -	54.3	63.1	65.9	70.7	72.4	72.2	69.2	64.8	53.1
HVAC	Point				78.0	78.0	0.0	0.0	0	HVAC: 67.7dB @ 3ft - Carrier 50TFQ0006 -	54.3	63.1	65.9	70.7	72.4	72.2	69.2	64.8	53.1
HVAC	Point				78.0	78.0	0.0	0.0	0	HVAC: 67.7dB @ 3ft - Carrier 50TFQ0006 -	54.3	63.1	65.9	70.7	72.4	72.2	69.2	64.8	53.1
HVAC	Point				78.0	78.0	0.0	0.0	0	HVAC: 67.7dB @ 3ft - Carrier 50TFQ0006 -	54.3	63.1	65.9	70.7	72.4	72.2	69.2	64.8	53.1
HVAC	Point				78.0	78.0	0.0	0.0	0	HVAC: 67.7dB @ 3ft - Carrier 50TFQ0006 -	54.3	63.1	65.9	70.7	72.4	72.2	69.2	64.8	53.1
HVAC	Point				78.0	78.0	0.0	0.0	0	HVAC: 67.7dB @ 3ft - Carrier 50TFQ0006 -	54.3	63.1	65.9	70.7	72.4	72.2	69.2	64.8	53.1
HVAC	Point				78.0	78.0	0.0	0.0	0	HVAC: 67.7dB @ 3ft - Carrier 50TFQ0006 -	54.3	63.1	65.9	70.7	72.4	72.2	69.2	64.8	53.1
HVAC	Point				78.0	78.0	0.0	0.0	0	HVAC: 67.7dB @ 3ft - Carrier 50TFQ0006 -	54.3	63.1	65.9	70.7	72.4	72.2	69.2	64.8	53.1
HVAC	Point				78.0	78.0	0.0	0.0	0	HVAC: 67.7dB @ 3ft - Carrier 50TFQ0006 -	54.3	63.1	65.9	70.7	72.4	72.2	69.2	64.8	53.1
HVAC	Point				78.0	78.0	0.0	0.0	0	HVAC: 67.7dB @ 3ft - Carrier 50TFQ0006 -	54.3	63.1	65.9	70.7	72.4	72.2	69.2	64.8	53.1

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1

Gantner Elementary Noise

Octave spectra of the sources in dB(A) - 001 - Gantner Elementary - CNEL: Outdoor SP

3

Name	Source type	I or A	Li	Rw	L'w	Lw	KI	KT	DO-Wall	Emission spectrum	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz	16kHz
		m,m ²	dB(A)	dB	dB(A)	dB(A)	dB	dB	dB		dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
HVAC	Point				78.0	78.0	0.0	0.0	0	HVAC: 67.7dB @ 3ft - Carrier 50TFQ0006 -	54.3	63.1	65.9	70.7	72.4	72.2	69.2	64.8	53.1
HVAC	Point				78.0	78.0	0.0	0.0	0	HVAC: 67.7dB @ 3ft - Carrier 50TFQ0006 -	54.3	63.1	65.9	70.7	72.4	72.2	69.2	64.8	53.1
HVAC	Point				78.0	78.0	0.0	0.0	0	HVAC: 67.7dB @ 3ft - Carrier 50TFQ0006 -	54.3	63.1	65.9	70.7	72.4	72.2	69.2	64.8	53.1
HVAC	Point				78.0	78.0	0.0	0.0	0	HVAC: 67.7dB @ 3ft - Carrier 50TFQ0006 -	54.3	63.1	65.9	70.7	72.4	72.2	69.2	64.8	53.1
HVAC	Point				78.0	78.0	0.0	0.0	0	HVAC: 67.7dB @ 3ft - Carrier 50TFQ0006 -	54.3	63.1	65.9	70.7	72.4	72.2	69.2	64.8	53.1
HVAC	Point				78.0	78.0	0.0	0.0	0	HVAC: 67.7dB @ 3ft - Carrier 50TFQ0006 -	54.3	63.1	65.9	70.7	72.4	72.2	69.2	64.8	53.1
HVAC	Point				78.0	78.0	0.0	0.0	0	HVAC: 67.7dB @ 3ft - Carrier 50TFQ0006 -	54.3	63.1	65.9	70.7	72.4	72.2	69.2	64.8	53.1
HVAC	Point				78.0	78.0	0.0	0.0	0	HVAC: 67.7dB @ 3ft - Carrier 50TFQ0006 -	54.3	63.1	65.9	70.7	72.4	72.2	69.2	64.8	53.1
HVAC	Point				78.0	78.0	0.0	0.0	0	HVAC: 67.7dB @ 3ft - Carrier 50TFQ0006 -	54.3	63.1	65.9	70.7	72.4	72.2	69.2	64.8	53.1
HVAC	Point				78.0	78.0	0.0	0.0	0	HVAC: 67.7dB @ 3ft - Carrier 50TFQ0006 -	54.3	63.1	65.9	70.7	72.4	72.2	69.2	64.8	53.1
HVAC	Point				78.0	78.0	0.0	0.0	0	HVAC: 67.7dB @ 3ft - Carrier 50TFQ0006 -	54.3	63.1	65.9	70.7	72.4	72.2	69.2	64.8	53.1
HVAC	Point				78.0	78.0	0.0	0.0	0	HVAC: 67.7dB @ 3ft - Carrier 50TFQ0006 -	54.3	63.1	65.9	70.7	72.4	72.2	69.2	64.8	53.1
HVAC	Point				78.0	78.0	0.0	0.0	0	HVAC: 67.7dB @ 3ft - Carrier 50TFQ0006 -	54.3	63.1	65.9	70.7	72.4	72.2	69.2	64.8	53.1
HVAC	Point				78.0	78.0	0.0	0.0	0	HVAC: 67.7dB @ 3ft - Carrier 50TFQ0006 -	54.3	63.1	65.9	70.7	72.4	72.2	69.2	64.8	53.1
HVAC	Point				78.0	78.0	0.0	0.0	0	HVAC: 67.7dB @ 3ft - Carrier 50TFQ0006 -	54.3	63.1	65.9	70.7	72.4	72.2	69.2	64.8	53.1
HVAC	Point				78.0	78.0	0.0	0.0	0	HVAC: 67.7dB @ 3ft - Carrier 50TFQ0006 -	54.3	63.1	65.9	70.7	72.4	72.2	69.2	64.8	53.1
HVAC	Point				78.0	78.0	0.0	0.0	0	HVAC: 67.7dB @ 3ft - Carrier 50TFQ0006 -	54.3	63.1	65.9	70.7	72.4	72.2	69.2	64.8	53.1

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2

Gantner Elementary Noise

Octave spectra of the sources in dB(A) - 001 - Gantner Elementary - CNEL: Outdoor SP

3

Name	Source type	l or A	Li	Rw	L'w	Lw	Kl	KT	DO-Wall	Emission spectrum	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz	16kHz
		m,m ²	dB(A)	dB	dB(A)	dB(A)	dB	dB	dB		dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
HVAC	Point				78.0	78.0	0.0	0.0	0	HVAC: 67.7dB @ 3ft - Carrier 50TFQ0006 -	54.3	63.1	65.9	70.7	72.4	72.2	69.2	64.8	53.1
HVAC	Point				78.0	78.0	0.0	0.0	0	HVAC: 67.7dB @ 3ft - Carrier 50TFQ0006 -	54.3	63.1	65.9	70.7	72.4	72.2	69.2	64.8	53.1
HVAC	Point				78.0	78.0	0.0	0.0	0	HVAC: 67.7dB @ 3ft - Carrier 50TFQ0006 -	54.3	63.1	65.9	70.7	72.4	72.2	69.2	64.8	53.1
HVAC	Point				78.0	78.0	0.0	0.0	0	HVAC: 67.7dB @ 3ft - Carrier 50TFQ0006 -	54.3	63.1	65.9	70.7	72.4	72.2	69.2	64.8	53.1
HVAC	Point				78.0	78.0	0.0	0.0	0	HVAC: 67.7dB @ 3ft - Carrier 50TFQ0006 -	54.3	63.1	65.9	70.7	72.4	72.2	69.2	64.8	53.1
HVAC	Point				78.0	78.0	0.0	0.0	0	HVAC: 67.7dB @ 3ft - Carrier 50TFQ0006 -	54.3	63.1	65.9	70.7	72.4	72.2	69.2	64.8	53.1
HVAC	Point				78.0	78.0	0.0	0.0	0	HVAC: 67.7dB @ 3ft - Carrier 50TFQ0006 -	54.3	63.1	65.9	70.7	72.4	72.2	69.2	64.8	53.1
HVAC	Point				78.0	78.0	0.0	0.0	0	HVAC: 67.7dB @ 3ft - Carrier 50TFQ0006 -	54.3	63.1	65.9	70.7	72.4	72.2	69.2	64.8	53.1
HVAC	Point				78.0	78.0	0.0	0.0	0	HVAC: 67.7dB @ 3ft - Carrier 50TFQ0006 -	54.3	63.1	65.9	70.7	72.4	72.2	69.2	64.8	53.1
HVAC	Point				78.0	78.0	0.0	0.0	0	HVAC: 67.7dB @ 3ft - Carrier 50TFQ0006 -	54.3	63.1	65.9	70.7	72.4	72.2	69.2	64.8	53.1
HVAC	Point				78.0	78.0	0.0	0.0	0	HVAC: 67.7dB @ 3ft - Carrier 50TFQ0006 -	54.3	63.1	65.9	70.7	72.4	72.2	69.2	64.8	53.1
HVAC	Point				78.0	78.0	0.0	0.0	0	HVAC: 67.7dB @ 3ft - Carrier 50TFQ0006 -	54.3	63.1	65.9	70.7	72.4	72.2	69.2	64.8	53.1
HVAC	Point				78.0	78.0	0.0	0.0	0	HVAC: 67.7dB @ 3ft - Carrier 50TFQ0006 -	54.3	63.1	65.9	70.7	72.4	72.2	69.2	64.8	53.1
HVAC	Point				78.0	78.0	0.0	0.0	0	HVAC: 67.7dB @ 3ft - Carrier 50TFQ0006 -	54.3	63.1	65.9	70.7	72.4	72.2	69.2	64.8	53.1
Playground	Area	337.29			60.0	85.3	0.0	0.0	0	Adventure playgrounds	30.9	48.9	64.5	76.1	81.9	80.2	74.8	65.3	
Playground	Area	408.41			60.0	86.1	0.0	0.0	0	Adventure playgrounds	31.7	49.8	65.3	77.0	82.8	81.0	75.7	66.1	

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3

Gantner Elementary Noise

Octave spectra of the sources in dB(A) - 001 - Gantner Elementary - CNEL: Outdoor SP

3

Name	Source type	I or A	Li	Rw	L'w	Lw	Kl	KT	DO-Wall	Emission spectrum	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz	16kHz
		m,m ²	dB(A)	dB	dB(A)	dB(A)	dB	dB	dB		dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
Playground	Area	161.90			60.0	82.1	0.0	0.0	0	Adventure playgrounds	27.7	45.7	61.3	73.0	78.7	77.0	71.7	62.1	
Playground	Area	374.68			60.0	85.7	0.0	0.0	0	Adventure playgrounds	31.3	49.4	64.9	76.6	82.4	80.6	75.3	65.7	
Soccer Game	Area	4956.05			62.0	99.0	0.0	0.0	0	Soccer game		82.9	85.1	89.4	93.6	93.3	93.0	78.7	
TetherBall	Point				84.0	84.0	0.0	0.0	0	Beach volleyball				84.0					
TetherBall	Point				84.0	84.0	0.0	0.0	0	Beach volleyball				84.0					
TetherBall	Point				84.0	84.0	0.0	0.0	0	Beach volleyball				84.0					
TetherBall	Point				84.0	84.0	0.0	0.0	0	Beach volleyball				84.0					
TetherBall	Point				84.0	84.0	0.0	0.0	0	Beach volleyball				84.0					
TetherBall	Point				84.0	84.0	0.0	0.0	0	Beach volleyball				84.0					
TetherBall	Point				84.0	84.0	0.0	0.0	0	Beach volleyball				84.0					
TetherBall	Point				84.0	84.0	0.0	0.0	0	Beach volleyball				84.0					
TetherBall	Point				84.0	84.0	0.0	0.0	0	Beach volleyball				84.0					
TetherBall	Point				84.0	84.0	0.0	0.0	0	Beach volleyball				84.0					
TetherBall	Point				84.0	84.0	0.0	0.0	0	Beach volleyball				84.0					
TetherBall	Point				84.0	84.0	0.0	0.0	0	Beach volleyball				84.0					
TetherBall	Point				84.0	84.0	0.0	0.0	0	Beach volleyball				84.0					

Appendix C:
Construction Noise Modeling Output

Receptor - Church to the East

Construction Phase Equipment Item	# of Items	Item Lmax at 50 feet, dBA ¹	Edge of Site to Receptor, feet	Center of Site to Receptor, feet	Item Usage Percent ¹	Ground Factor ²	Usage Factor	Receptor Item Lmax, dBA	Receptor Item Leq, dBA
SITE PREP									
Tractor	4	84	20	320	40	0	0.40	92.0	63.9
Dozer	3	82	20	320	40	0	0.40	90.0	61.9
								92.0	71.6
GRADE									
Tractor	2	84	20	320	40	0	0.40	92.0	63.9
Grader	1	85	20	320	40	0	0.40	93.0	64.9
Dozer	1	82	20	320	40	0	0.40	90.0	61.9
Excavator	2	81	20	320	40	0	0.40	89.0	60.9
Scraper	2	84	20	320	40	0	0.40	92.0	63.9
								93.0	69.8
BUILD									
Crane	1	81	20	320	16	0	0.16	89.0	56.9
Man lift	3	75	20	320	20	0	0.20	83.0	51.9
Generator	1	81	20	320	50	0	0.50	89.0	61.9
Tractor	3	84	20	320	40	0	0.40	92.0	63.9
Welder/Torch	1	74	20	320	40	0	0.40	82.0	53.9
								92.0	70.0
PAVING									
Paver	2	77	20	320	50	0	0.50	85.0	57.9
Pavement Scarifier	2	90	20	320	20	0	0.20	98.0	66.9
Roller	2	80	20	320	20	0	0.20	88.0	56.9
								85.0	60.9
ARCH COAT									
Compressor (air)	1	78	20	320	40	0	0.40	86.0	57.9
								86.0	57.9

¹FHWA Construction Noise Handbook: Table 9.1 RCNM Default Noise Emission Reference Levels and Usage Factors

Appendix D:
Construction Vibration Modeling Output

VIBRATION LEVEL IMPACT

Project: Samuel M. Gantner Elementary School Date: 1/15/26
Source: Vibratory Roller
Scenario: Unmitigated
Location: Nearest residential structure to the west
Address: Lodi, CA
PPV = $PPV_{ref}(25/D)^n$ (in/sec)

DATA INPUT

Equipment = 1 Vibratory Roller INPUT SECTION IN BLUE
Type
PPVref = 0.21 Reference PPV (in/sec) at 25 ft.
D = 125.00 Distance from Equipment to Receiver (ft)
n = 1.10 Vibration attenuation rate through the ground

Note: Based on reference equations from Vibration Guidance Manual, California Department of Transportation, 2006, pgs 38-43.

DATA OUT RESULTS

PPV = 0.036 IN/SEC OUTPUT IN RED