

# Supplemental Noise Assessment

## The Campus Development

City of Dixon, California

February 28, 2025

Project #230514

Prepared for:

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## **INTRODUCTION**

This supplemental noise report addresses noise from the Campbell's Soup Company facility located at 830 Pedrick Road on the proposed Campus Development project. This report addresses compliance with the City's exterior noise standards for General Plan compliance.

## **ENVIRONMENTAL SETTING**

### **BACKGROUND INFORMATION ON NOISE**

#### ***Fundamentals of Acoustics***

Acoustics is the science of sound. Sound may be thought of as mechanical energy of a vibrating object transmitted by pressure waves through a medium to human (or animal) ears. If the pressure variations occur frequently enough (at least 20 times per second), then they can be heard and are called sound. The number of pressure variations per second is called the frequency of sound, and is expressed as cycles per second or Hertz (Hz).

Noise is a subjective reaction to different types of sounds. Noise is typically defined as (airborne) sound that is loud, unpleasant, unexpected or undesired, and may therefore be classified as a more specific group of sounds. Perceptions of sound and noise are highly subjective from person to person.

Measuring sound directly in terms of pressure would require a very large and awkward range of numbers. To avoid this, the decibel scale was devised. The decibel scale uses the hearing threshold (20 micropascals), as a point of reference, defined as 0 dB. Other sound pressures are then compared to this reference pressure, and the logarithm is taken to keep the numbers in a practical range. The decibel scale allows a million-fold increase in pressure to be expressed as 120 dB, and changes in levels (dB) correspond closely to human perception of relative loudness.

The perceived loudness of sounds is dependent upon many factors, including sound pressure level and frequency content. However, within the usual range of environmental noise levels, perception of loudness is relatively predictable, and can be approximated by A-weighted sound levels. There is a strong correlation between A-weighted sound levels (expressed as dBA) and the way the human ear perceives sound. For this reason, the A-weighted sound level has become the standard tool of environmental noise assessment. All noise levels reported in this section are in terms of A-weighted levels, but are expressed as dB, unless otherwise noted.

The decibel scale is logarithmic, not linear. In other words, two sound levels 10-dB apart differ in acoustic energy by a factor of 10. When the standard logarithmic decibel is A-weighted, an increase of 10-dBA is generally perceived as a doubling in loudness. For example, a 70-dBA sound is half as loud as an 80-dBA sound, and twice as loud as a 60 dBA sound.

Community noise is commonly described in terms of the ambient noise level, which is defined as the all-encompassing noise level associated with a given environment. A common statistical tool is the average, or equivalent, sound level ( $L_{eq}$ ), which corresponds to a steady-state A-weighted sound level containing the same total energy as a time varying signal over a given time period (usually one hour). The  $L_{eq}$  is the foundation of the composite noise descriptor,  $L_{dn}$ , and shows very good correlation with community response to noise.

The day/night average level ( $L_{dn}$ ) is based upon the average noise level over a 24-hour day, with a +10-decibel weighing applied to noise occurring during nighttime (10:00 p.m. to 7:00 a.m.) hours. The nighttime penalty is based upon the assumption that people react to nighttime noise exposures as though they were twice as loud as daytime exposures. Because  $L_{dn}$  represents a 24-hour average, it tends to disguise short-term variations in the noise environment.

**Table 1** lists several examples of the noise levels associated with common situations. **Appendix A** provides a summary of acoustical terms used in this report.

**TABLE 1: TYPICAL NOISE LEVELS**

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	--110--	Rock Band
Jet Fly-over at 300 m (1,000 ft.)	--100--	
Gas Lawn Mower at 1 m (3 ft.)	--90--	
Diesel Truck at 15 m (50 ft.), at 80 km/hr. (50 mph)	--80--	Food Blender at 1 m (3 ft.) Garbage Disposal at 1 m (3 ft.)
Noisy Urban Area, Daytime Gas Lawn Mower, 30 m (100 ft.)	--70--	Vacuum Cleaner at 3 m (10 ft.)
Commercial Area Heavy Traffic at 90 m (300 ft.)	--60--	Normal Speech at 1 m (3 ft.)
Quiet Urban Daytime	--50--	Large Business Office Dishwasher in Next Room
Quiet Urban Nighttime	--40--	Theater, Large Conference Room (Background)
Quiet Suburban Nighttime	--30--	Library
Quiet Rural Nighttime	--20--	Bedroom at Night, Concert Hall (Background)
	--10--	Broadcast/Recording Studio
Lowest Threshold of Human Hearing	--0--	Lowest Threshold of Human Hearing

Source: Caltrans, Technical Noise Supplement, Traffic Noise Analysis Protocol. September, 2013.

### ***Effects of Noise on People***

The effects of noise on people can be placed in three categories:

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

Environmental noise typically produces effects in the first two categories. Workers in industrial plants can experience noise in the last category. There is no completely satisfactory way to measure the subjective effects of noise or the corresponding reactions of annoyance and dissatisfaction. A wide variation in individual thresholds of annoyance exists and different tolerances to noise tend to develop based on an individual's past experiences with noise.

Thus, an important way of predicting a human reaction to a new noise environment is the way it compares to the existing environment to which one has adapted: the so-called ambient noise level. In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise will be judged by those hearing it.

With regard to increases in A-weighted noise level, the following relationships occur:

- Except in carefully controlled laboratory experiments, a change of 1-dBA cannot be perceived;
- Outside of the laboratory, a 3-dBA change is considered a just-perceivable difference;
- A change in level of at least 5-dBA is required before any noticeable change in human response would be expected; and
- A 10-dBA change is subjectively heard as approximately a doubling in loudness, and can cause an adverse response.

Stationary point sources of noise – including stationary mobile sources such as idling vehicles – attenuate (lessen) at a rate of approximately 6-dB per doubling of distance from the source, depending on environmental conditions (i.e. atmospheric conditions and either vegetative or manufactured noise barriers, etc.). Widely distributed noises, such as a large industrial facility spread over many acres, or a street with moving vehicles, would typically attenuate at a lower rate.

## EXISTING AMBIENT NOISE LEVELS

A continuous noise measurement was located at the same location as the previous monitoring site (LT-2) conducted for the project EIR. Saxelby Acoustics staff conducted observations and an additional short-term noise monitoring site at ST-1. Noise measurement locations are shown on **Figure 1**. A summary of the noise level measurement survey results is provided in **Table 2**. **Appendix B** contains the complete results of the noise monitoring.

The sound level meters were programmed to record the maximum, median, and average noise levels at each site during the survey. The maximum value, denoted  $L_{max}$ , represents the highest noise level measured. The average value, denoted  $L_{eq}$ , represents the energy average of all the noise received by the sound level meter microphone during the monitoring period. The median value, denoted  $L_{50}$ , represents the sound level exceeded 50 percent of the time during the monitoring period.

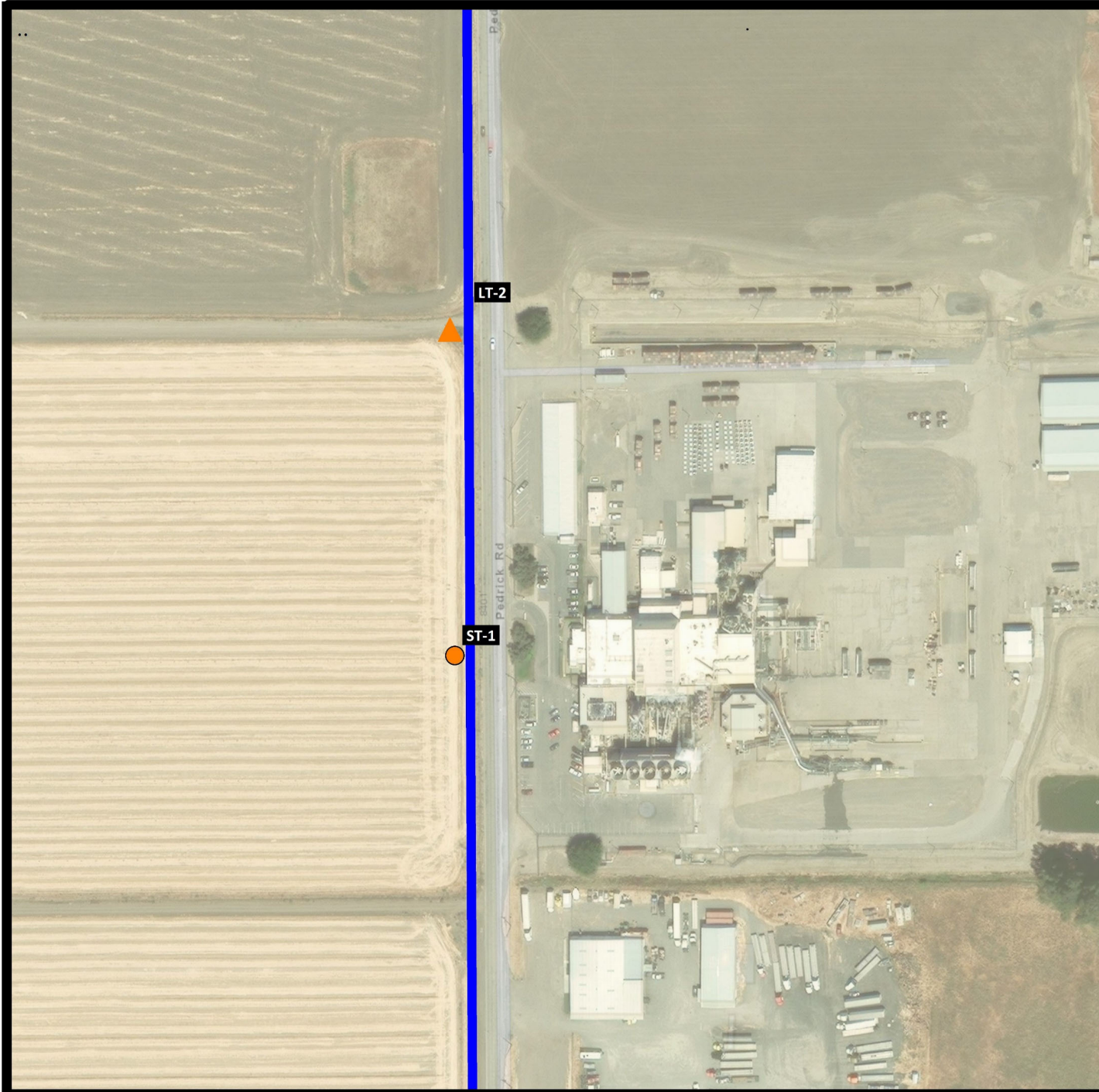
Larson Davis Laboratories (LDL) model 820 and 831 precision integrating sound level meters were used for the ambient noise level measurement survey. The meters were calibrated before and after use with a CAL200 acoustical calibrator to ensure the accuracy of the measurements. The equipment used meets all pertinent specifications of the American National Standards Institute for Type 1 sound level meters (ANSI S1.4).

**TABLE 2: SUMMARY OF EXISTING BACKGROUND NOISE MEASUREMENT DATA**

Location	Date	$L_{dn}$	Daytime $L_{eq}$	Daytime $L_{50}$	Daytime $L_{max}$	Nighttime $L_{eq}$	Nighttime $L_{50}$	Nighttime $L_{max}$
LT-2*	9/11/2024	77	73	68	89	70	68	85
ST-1	9/10/2024	N/A	73	70	89	--	--	--

- \* LT-2 (same location as LT-2 for the Campus Development EIR).
- All values shown in dBA
- Daytime hours: 7:00 a.m. to 10:00 p.m.
- Nighttime Hours: 10:00 p.m. to 7:00 a.m.
- Source: Saxelby Acoustics, 2024.








## The Campus Development

City of Dixon, California

Figure 1

Supplemental Noise Measurement Sites

### Legend

-  Project Site
-  Noise Measurement - Short Term
-  Noise Measurement Site - Long Term

\*Note that LT-2 was same location as LT-2 in DEIR.



Projection: UTM Zone 10 / WGS84 / meters  
Rev. Date: 02/28/2025



## REGULATORY CONTEXT

### FEDERAL

There are no federal regulations related to noise that apply to the Proposed Project.

### STATE

#### ***State Building Code, Title 24, Part 2 of the State of California Code of Regulations***

The State Building Code, Title 24, Part 2 of the State of California Code of Regulations, establishes uniform minimum noise insulation performance standards to protect persons within new buildings which house people, including hotels, motels, dormitories, apartment houses, and dwellings other than single-family dwellings. Title 24 mandates that interior noise levels attributable to exterior sources shall not exceed 45 dB  $L_{dn}$  or CNEL in any habitable room. Title 24 also mandates that for structures containing noise-sensitive uses to be located where the  $L_{dn}$  or CNEL exceeds 60 dB, an acoustical analysis must be prepared to identify mechanisms for limiting exterior noise to the prescribed allowable interior levels. If the interior allowable noise levels are met by requiring that windows be kept closed, the design for the structure must also specify a ventilation or air conditioning system to provide a habitable interior environment.

### LOCAL

#### ***City of Dixon General Plan***

### LOCAL

#### **City of Dixon Noise Policies**

**NE-5.19** Apply the General Plan noise and land use compatibility standards to all new residential, commercial, and mixed-use development and redevelopment, as shown in **Figure 2**.

Land Use Categories	Community Noise Exposure (CNEL, Ldn, or dBA)					
	55	60	65	70	75	80
Residential – Low Density Single Family, Duplex, Mobile Homes						
Residential – Multiple Family						
Transient Lodging – Motels, Hotels						
Schools, Libraries, Churches, Hospitals, Nursing Homes						
Auditoriums, Concert Halls, Amphitheaters						
Sports Arena, Outdoor Spectator Sports						
Playgrounds, Neighborhood Parks						
Golf Courses, Riding Stables, Water Recreation, Cemeteries						
Office Buildings, Business Commercial and Professional						
Industrial, Manufacturing, Utilities, Agriculture						

**FIGURE 2: COMMUNITY NOISE COMPATIBILITY MATRIX**



	<u><b>Normally Acceptable:</b></u> Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirement. Outdoor areas are suitable for normal outdoor activities for this land use.
	<u><b>Conditionally Acceptable:</b></u> New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air-conditioning, will normally suffice.
	<u><b>Normally Unacceptable:</b></u> New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.
	<u><b>Clearly Unacceptable:</b></u> New construction or development should generally not be undertaken.

#### Considerations in determination of noise – compatible land use

##### *A. Normalized Noise Exposure Information Desired*

Where sufficient data exists, evaluate land use suitability with respect to a "normalized" value of CNEL or  $L_{dn}$ . Normalized values are obtained by adding or subtracting the constants described in **Figure 2** to the measured or calculated value of CNEL or  $L_{dn}$ .

##### *B. Noise Source Characteristics*

The land use-noise compatibility recommendations should be viewed in relation to the specific source of the noise. For example, aircraft and railroad noise is normally made up of higher single noise events than auto traffic but occurs less frequently. Therefore, different sources yielding the same composite noise exposure do not necessarily create the same noise environment. The State Aeronautics Act uses 65 dB CNEL as the criterion which airports must eventually meet to protect existing residential communities from unacceptable exposure to aircraft noise. In order to facilitate the purposes of the Act, one of which is to encourage land uses compatible with the 65 dB CNEL criterion wherever possible, and in order to facilitate the ability of airports to comply with the Act, residential uses located in Community Noise Exposure Areas greater than 65 dB should be discouraged and considered located within normally unacceptable areas.

##### *C. Suitable Interior Environments*

One objective of locating residential units relative to a known noise source is to maintain a suitable interior noise environment at no greater than 45 dB CNEL of  $L_{dn}$ . This requirement, coupled with the measured or calculated noise reduction performance of the type of structure under consideration, should govern the minimum acceptable distance to a noise source.

#### D. Acceptable Outdoor Environments

Another consideration, which in some communities is an overriding factor, is the desire for an acceptable outdoor noise environment. When this is the case, more restrictive standards for land use compatibility, typically below the maximum considered “normally acceptable” for that land use category, may be appropriate

**Notes:**

1. *The Community Noise Equivalent Level (CNEL) and Day-Night Noise Level ( $L_{dn}$ ) are measures of the 24-hour noise environment. They represent the constant A-weighted noise level that would be measured if all the sound energy received over the day was averaged. In order to account for the greater sensitivity of people to noise at night, the CNEL weighting includes a 5- decibel penalty on noise between 7:00 pm and 10:00 pm and a 10-decibel penalty on noise between 10:00 pm and 7:00 am of the next day. The  $L_{dn}$  includes only the 10-decibel weighting for late-night noise events. For practical purposes, the two measures are equivalent for typical urban noise environments.*

#### City of Dixon Municipal Code

##### 18.17.110 - Noise

- A. Noise Limits. Unless excepted pursuant to subsection C of this section, Noise Limit Exceptions, no land use shall generate sound exceeding the maximum levels identified in Table 18.17.110.A: Noise Limits or as amended pursuant to the correction factors in Table 18.17.110.B: Noise Limit Correction Factors.

**TABLE 3: NOISE PERFORMANCE STANDARDS**

Zoning District	Maximum Sound Pressure Level in Decibels
RL	55 dB
RM	60 dB
Commercial and Mixed-Use Districts	70 dB
Industrial Districts	75 dB

- B. Noise Limit Correction Factors. The following correction factors shall be applied to the maximum sound pressure levels in Table 18.17.110.A: Noise Limits:

**TABLE 4: NOISE PERFORMANCE STANDARDS – CORRECTION FACTORS**

Time and Operation of Type of Noise	Correction in Maximum Permitted Decibels
Emission only between 7 a.m. and 10 p.m.	Plus 5
Noise of unusual impulsive character such as hammering or drill pressing	Minus 5
Noise of unusual periodic character such as hammering or screeching	Minus 5

- C. Noise Limit Exceptions. The following sounds may exceed the maximum sound pressure levels established in Table 18.17.110.A: Noise Limits:

1. Time signals produced by places of employment or worship and school recess signals providing no one sound exceeds five (5) seconds in duration and no one series of sounds exceeds twenty-four (24) seconds in duration;
  2. Sounds from transportation equipment used exclusively in the movement of goods and people to and from a given premises, temporary construction or demolition work; and
  3. Sounds made in the interests of public safety.
- D. Noise Level Measurement. The following provisions shall determine means for measuring noise levels. Where these provisions conflict with other provisions of the Dixon Municipal Code, the following shall remain applicable for purposes of this code:
1. Setting of Meter. Any sound or noise level measurement made pursuant to the provisions of this chapter shall be measured with a sound level meter using an A-weighting and “slow” response pursuant to applicable manufacturer’s instructions, except that for sounds of a duration of two (2) seconds or less the “fast” response shall be used and the average level during the occurrence of the sound reported.
  2. Calibration of Meter. The sound level meter shall be appropriately calibrated and adjusted as necessary by means of an acoustical calibrator of the coupler type to ensure meter accuracy within the tolerances set forth in American National Standards ANSI-SI.4-1971.
  3. Location of Microphone. All measurements shall be taken at any lot line of a lot within the applicable zoning district. The measuring microphone shall not be less than four (4) feet above the ground, at least four (4) feet distant from walls or other large reflecting surfaces and shall be protected from the effects of wind noises by the use of appropriate wind screens. In cases when the microphone must be located within ten (10) feet of walls or similar large reflecting surfaces, the actual measured distances and orientation of sources, microphone and reflecting surfaces shall be noted and recorded. In no case shall a noise measurement be taken within five (5) feet of the noise source.
  4. Measured Sound Levels. The measurement of sound level limits shall be the average sound level for a period of one (1) hour. [Ord. 24-002 § 5 (Exh. A).]

#### ***Summary of Applicable Noise Level Standards***

**Figure 2** shows the City of Dixon Land Use Compatibility Chart. The table indicates that development of residential uses is “Normally Acceptable” where the ambient noise level is 60 dBA  $L_{dn}$  or less. Construction where the ambient noise level exceeds 75 dBA  $L_{dn}$  is considered “Unacceptable.” Construction may occur where noise levels range from 60 dBA  $L_{dn}$  to 75 dBA  $L_{dn}$  if noise reduction measures are implemented to ensure interior and exterior spaces are protected from excessive noise. **Policy NE-5.19c** establishes an acceptable interior noise level of 45 dBA  $L_{dn}$ . The noise ordinance limit is 55 dBA for noise *generated by* residential land uses and is therefore not applicable to being generated outside of the City by an industrial use.

## EVALUATION OF STATIONARY NOISE ON PROPOSED SENSITIVE RECEPTORS

The Campbell's Soup Company facility does not operate year-round and was not in full operation during the original noise baseline data collection for the Campus EIR project. Therefore, a supplemental data collection was undertaken in September of 2024 to document the noise generated by operation of the facility during its peak season.

Based upon observations and noise measurements conducted at sites LT-2 and ST-1, the facility was found to generate noise levels of approximately 68 dBA  $L_{50}$  and 74 dBA  $L_{dn}$  at LT-2. At ST-1 the measured facility noise level was 70 dBA  $L_{50}$  (76 dBA  $L_{dn}$ ). It should be noted that the  $L_{50}$  values are presented here as a means of separating the plant noise levels from transportation noise due to vehicles traveling on Peddrick Road. For a continuous noise source, the  $L_{50}$  and  $L_{eq}$  are considered equivalent.

## MODELING METHODOLOGY

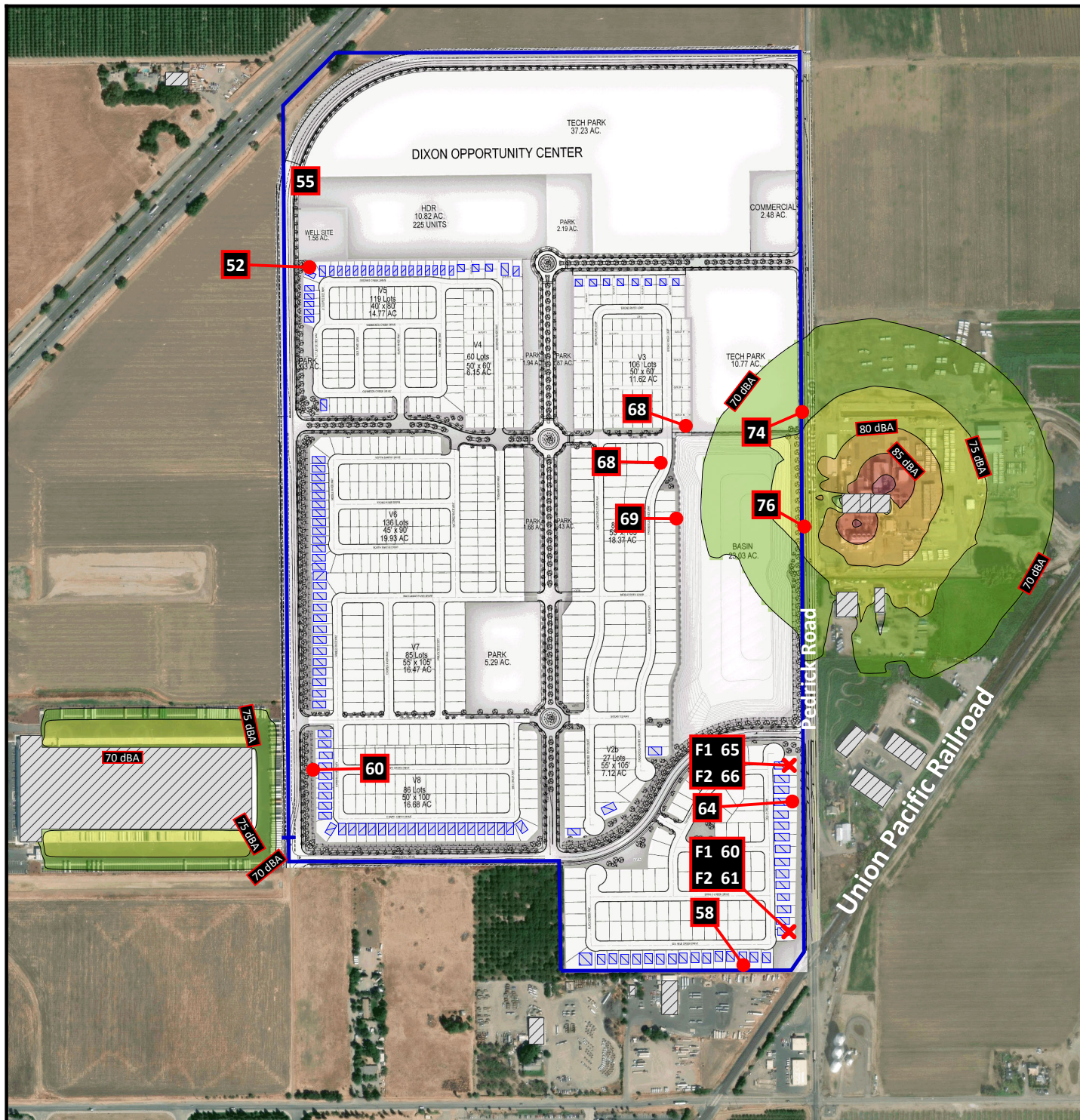
Saxelby Acoustics used the SoundPLAN noise prediction model calibrated to the measured facility noise levels. These predictions are made in accordance with International Organization for Standardization (ISO) standard 9613-2:1996 (Acoustics – Attenuation of sound during propagation outdoors). ISO 9613 is the most commonly used method for calculating exterior noise propagation. **Figure 3** shows the  $L_{dn}$  noise levels on the project site for the facility-only noise. **Figure 4** shows the facility noise with the inclusion of transportation noise from Pedrick Road.

## RESULTS

As shown in **Figures 3**, the Campbell's Soup Company facility is predicted to generate noise levels of up to 69 dBA  $L_{dn}$  at the closest proposed residential uses. This would comply with the City of Dixon noise level standard of 70 dBA  $L_{dn}$ . It should be noted that because the plant operates continuously, the average hourly noise level ( $L_{eq}$ ) from the facility is predicted to be approximately 63 dBA  $L_{eq}$  at the closest residential uses.

Assuming a 25 dBA reduction provided from standard building construction, the project would also meet the City's 45 dBA  $L_{dn}$  interior noise standard.



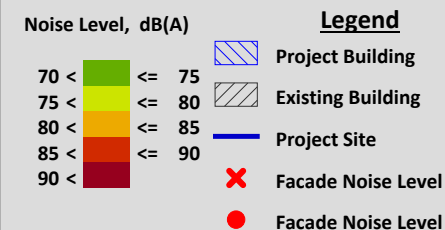


## The Campus Development

City of Dixon, California

Figure 3

Non-Transportation Noise on Project Site  
Ldn, dB(A)



Scale 1:735

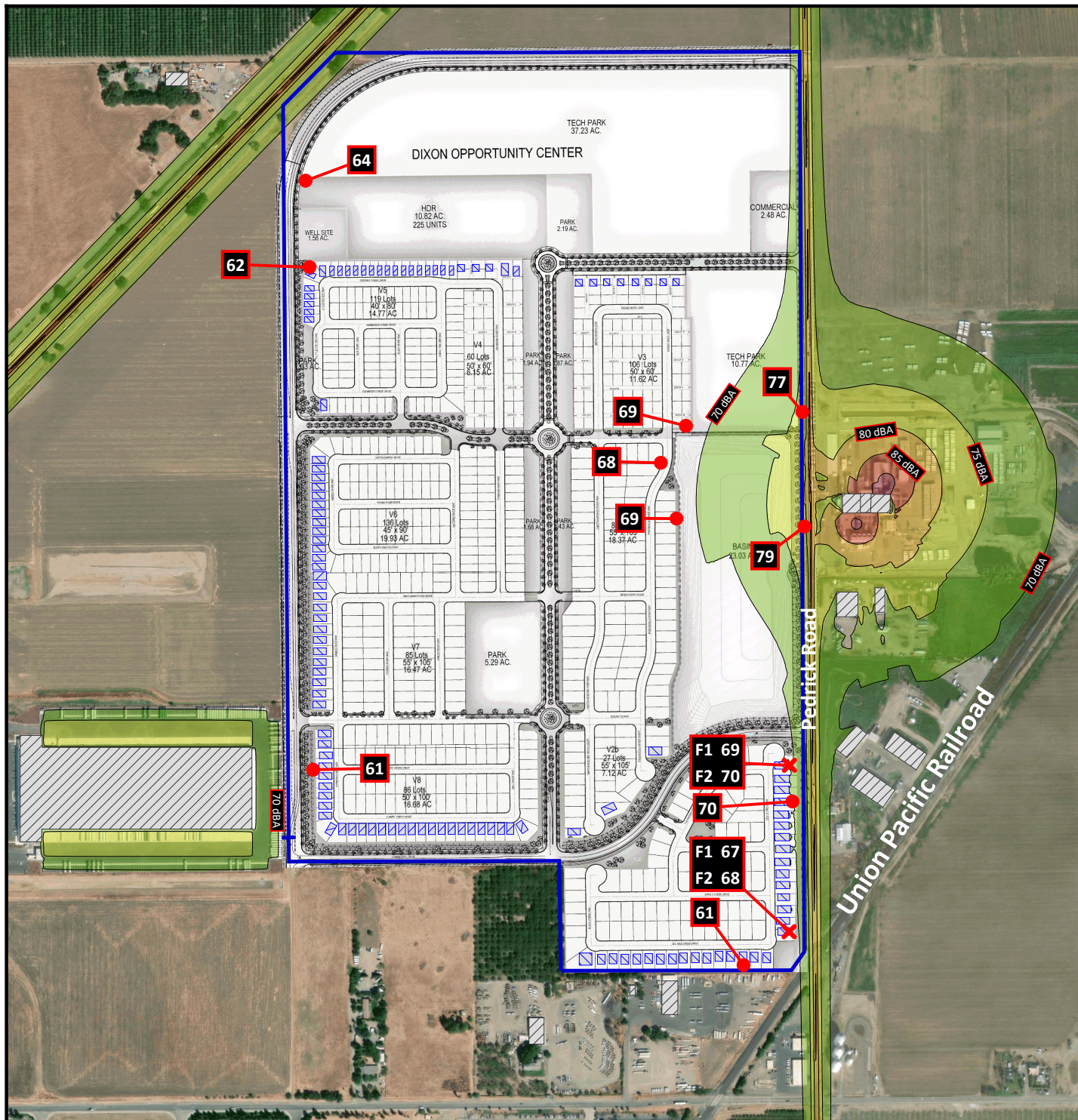
0 100 200 400 600 800 feet





## City of Dixon, California

**Combined Non-Transportation and Transportation Noise on Project Site Ldn, dB(A)**



## CONCLUSIONS

Noise levels from the Campbell's Soup Company are predicted to meet the requirements of the City of Dixon at exterior and interior spaces of the proposed residential uses and no additional noise control measures are required.





## REFERENCES

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## Appendix A: Acoustical Terminology

<b>Acoustics</b>	The science of sound.
<b>Ambient Noise</b>	The distinctive acoustical characteristics of a given space consisting of all noise sources audible at that location. In many cases, the term ambient is used to describe an existing or pre-project condition such as the setting in an environmental noise study.
<b>ASTC</b>	Apparent Sound Transmission Class. Similar to STC but includes sound from flanking paths and correct for room reverberation. A larger number means more attenuation. The scale, like the decibel scale for sound, is logarithmic.
<b>Attenuation</b>	The reduction of an acoustic signal.
<b>A-Weighting</b>	A frequency-response adjustment of a sound level meter that conditions the output signal to approximate human response.
<b>Decibel or dB</b>	Fundamental unit of sound, A Bell is defined as the logarithm of the ratio of the sound pressure squared over the reference pressure squared. A Decibel is one-tenth of a Bell.
<b>CNEL</b>	Community Noise Equivalent Level. Defined as the 24-hour average noise level with noise occurring during evening hours (7 - 10 p.m.) weighted by +5 dBA and nighttime hours weighted by +10 dBA.
<b>DNL</b>	See definition of Ldn.
<b>IIC</b>	Impact Insulation Class. An integer-number rating of how well a building floor attenuates impact sounds, such as footsteps. A larger number means more attenuation. The scale, like the decibel scale for sound, is logarithmic.
<b>Frequency</b>	The measure of the rapidity of alterations of a periodic signal, expressed in cycles per second or hertz (Hz).
<b>Ldn</b>	Day/Night Average Sound Level. Similar to CNEL but with no evening weighting.
<b>Leq</b>	Equivalent or energy-averaged sound level.
<b>Lmax</b>	The highest root-mean-square (RMS) sound level measured over a given period of time.
<b>L(n)</b>	The sound level exceeded a described percentile over a measurement period. For instance, an hourly L50 is the sound level exceeded 50% of the time during the one-hour period.
<b>Loudness</b>	A subjective term for the sensation of the magnitude of sound.
<b>NIC</b>	Noise Isolation Class. A rating of the noise reduction between two spaces. Similar to STC but includes sound from flanking paths and no correction for room reverberation.
<b>NNIC</b>	Normalized Noise Isolation Class. Similar to NIC but includes a correction for room reverberation.
<b>Noise</b>	Unwanted sound.
<b>NRC</b>	Noise Reduction Coefficient. NRC is a single-number rating of the sound-absorption of a material equal to the arithmetic mean of the sound-absorption coefficients in the 250, 500, 1000, and 2,000 Hz octave frequency bands rounded to the nearest multiple of 0.05. It is a representation of the amount of sound energy absorbed upon striking a particular surface. An NRC of 0 indicates perfect reflection; an NRC of 1 indicates perfect absorption.
<b>RT60</b>	The time it takes reverberant sound to decay by 60 dB once the source has been removed.
<b>Sabin</b>	The unit of sound absorption. One square foot of material absorbing 100% of incident sound has an absorption of 1 Sabin.
<b>SEL</b>	Sound Exposure Level. SEL is a rating, in decibels, of a discrete event, such as an aircraft flyover or train pass by, that compresses the total sound energy into a one-second event.
<b>SPC</b>	Speech Privacy Class. SPC is a method of rating speech privacy in buildings. It is designed to measure the degree of speech privacy provided by a closed room, indicating the degree to which conversations occurring within are kept private from listeners outside the room.
<b>STC</b>	Sound Transmission Class. STC is an integer rating of how well a building partition attenuates airborne sound. It is widely used to rate interior partitions, ceilings/floors, doors, windows and exterior wall configurations. The STC rating is typically used to rate the sound transmission of a specific building element when tested in laboratory conditions where flanking paths around the assembly don't exist. A larger number means more attenuation. The scale, like the decibel scale for sound, is logarithmic.
<b>Threshold of Hearing</b>	The lowest sound that can be perceived by the human auditory system, generally considered to be 0 dB for persons with perfect hearing.
<b>Threshold of Pain</b>	Approximately 120 dB above the threshold of hearing.
<b>Impulsive</b>	Sound of short duration, usually less than one second, with an abrupt onset and rapid decay.
<b>Simple Tone</b>	Any sound which can be judged as audible as a single pitch or set of single pitches.

## Appendix B: Continuous and Short-Term Ambient Noise Measurement Results





## Appendix B1: Continuous Noise Monitoring Results

Site: LT-2

Project: The Campus Development

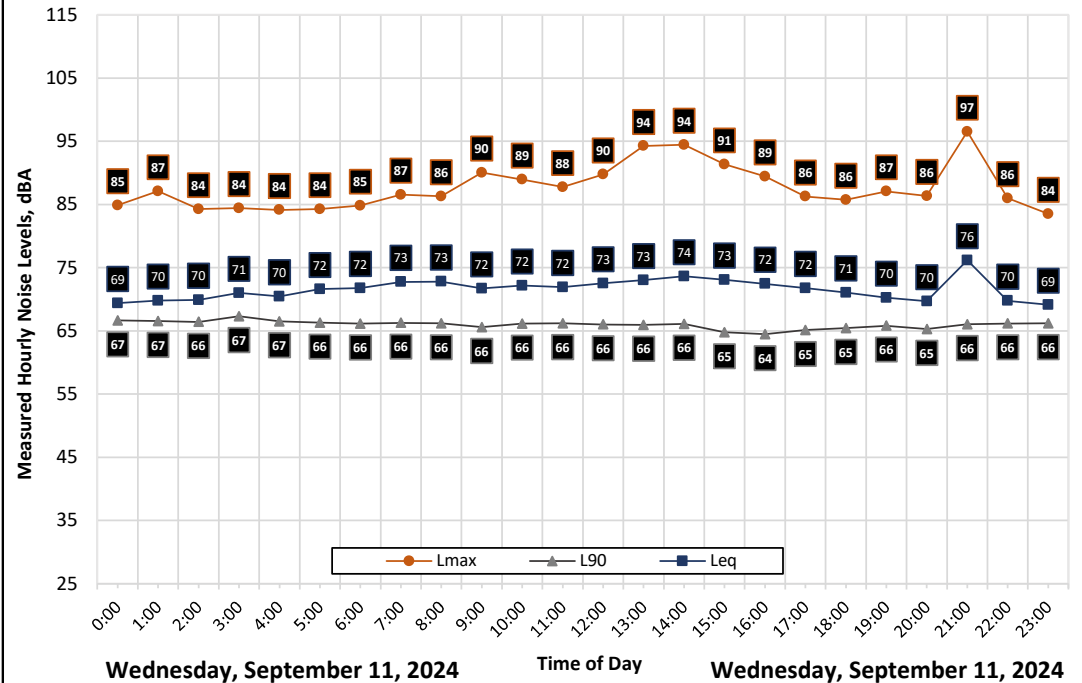
Meter: LDL 820-1

Location: Eastern Project Boundary

Calibrator: CAL200

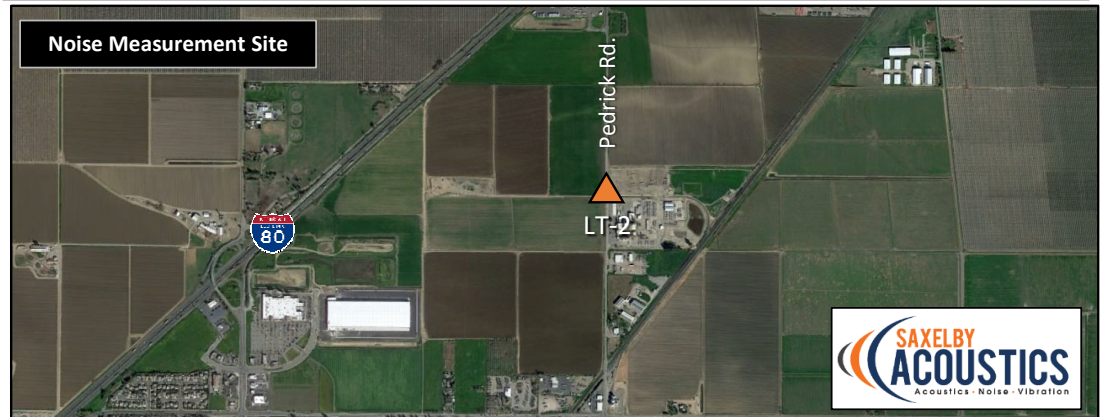
Coordinates: 38.4767935, -121.8041006

Measured Ambient Noise Levels vs. Time of Day



Date	Time	Measured Level, dBA			
		L <sub>eq</sub>	L <sub>max</sub>	L <sub>50</sub>	L <sub>90</sub>
Wednesday, September 11, 2024	0:00	69	85	68	67
Wednesday, September 11, 2024	1:00	70	87	68	67
Wednesday, September 11, 2024	2:00	70	84	68	66
Wednesday, September 11, 2024	3:00	71	84	69	67
Wednesday, September 11, 2024	4:00	70	84	68	67
Wednesday, September 11, 2024	5:00	72	84	68	66
Wednesday, September 11, 2024	6:00	72	85	68	66
Wednesday, September 11, 2024	7:00	73	87	68	66
Wednesday, September 11, 2024	8:00	73	86	69	66
Wednesday, September 11, 2024	9:00	72	90	68	66
Wednesday, September 11, 2024	10:00	72	89	68	66
Wednesday, September 11, 2024	11:00	72	88	69	66
Wednesday, September 11, 2024	12:00	73	90	69	66
Wednesday, September 11, 2024	13:00	73	94	69	66
Wednesday, September 11, 2024	14:00	74	94	70	66
Wednesday, September 11, 2024	15:00	73	91	69	65
Wednesday, September 11, 2024	16:00	72	89	69	64
Wednesday, September 11, 2024	17:00	72	86	68	65
Wednesday, September 11, 2024	18:00	71	86	68	65
Wednesday, September 11, 2024	19:00	70	87	67	66
Wednesday, September 11, 2024	20:00	70	86	67	65
Wednesday, September 11, 2024	21:00	76	97	67	66
Wednesday, September 11, 2024	22:00	70	86	68	66
Wednesday, September 11, 2024	23:00	69	84	68	66

Statistics	Leq	Lmax	L50	L90
Day Average	73	89	68	66
Night Average	70	85	68	66
Day Low	70	86	67	64
Day High	76	97	70	66
Night Low	69	84	68	66
Night High	72	87	69	67
Ldn	77	Day %		73
CNEL	78	Night %		27



## Appendix B2 : Short Term Noise Monitoring Results

Site: ST-1

Project: The Campus Development

Location: Southeast Boundary of Project Site

Coordinates: 38.475156,-121.804020

Meter: LDL 831-5

Calibrator: CAL200

Start: 2024-09-10 17:09:19

Stop: 2024-09-10 17:19:19

SLM: Model 831

Serial: 2658

### Measurement Results, dBA

Duration: 0:10

$L_{eq}$ : 73

$L_{max}$ : 89

$L_{min}$ : 68

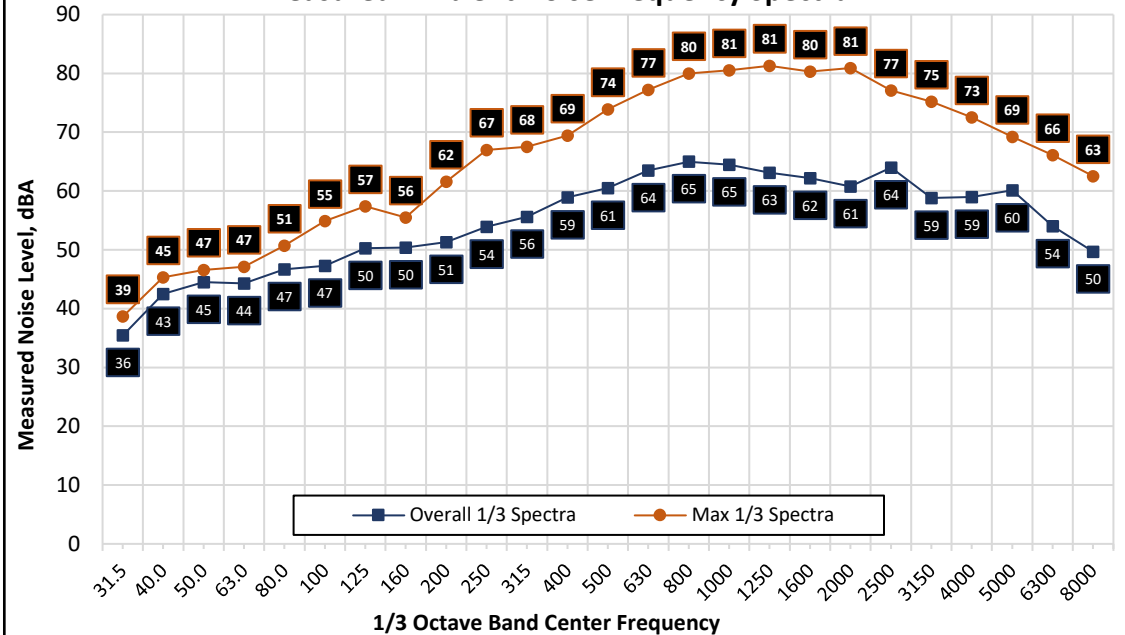
$L_{50}$ : 70

$L_{90}$ : 69

### Notes

Primary noise source is Campbell's Soup and traffic on Pedrick Road

### Measured Ambient Noise Frequency Spectrum



### Noise Measurement Site

