Quick Quack Car Wash (Store #35-059)

Noise Impact Study

City of Watsonville, CA

Prepared for:

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Date: 2/9/2024

MD ACOUSTICS
Sound Solutions for Planning and Design

TABLE OF CONTENTS

LIST OF APPENDICES

LIST OF EXHIBITS

LIST OF TABLES

1.0 Executive Summary

This report has been prepared to provide the calculated noise projections from the proposed Quick Quack Car Wash ("Project") located along the east side of East Lake Avenue between Eaton Avenue and Tuttle Avenue in the City of Watsonville, CA. All calculations are compared to the City of Watsonville's noise ordinance and General Plan as well as the existing ambient condition. The Project proposes to construct a 108-foot car wash tunnel with 18 vacuum stalls.

1.1 Findings and Conclusions

Two (2) 15-minute ambient noise measurements were performed at or near the Project site to represent the current operational noise and ambient levels within the Project vicinity. The predominant source of noise impacting the existing site is traffic noise propagating from East Lake Avenue.

This study compares the Project's operational noise levels to two (2) different noise assessment scenarios: 1) Project only operational noise level projections, and 2) Project plus ambient noise level projections.

Project-only operational noise levels are anticipated to be 44 to 60 dBA Leq at the surrounding residential uses. The project plus ambient noise level will increase the existing ambient level by 1 to 4 dB at the residential receptors. This assessment evaluates the baseline noise condition and compares the Project's worst-case operational noise level to the measured noise level (during the Project's proposed hours of operation).

The following outlines the project design features:

1. The Project will incorporate a 12 Sonny's blower system with the silencer package installed or equivalent to meet these acoustical benchmarks.
2. An acoustic liner (Acoustiblok perforated metal panels or equivalent) will line 15' of the exit (see Appendix C).
3. An interior lined wall (Acoustiblok perforated metal panels or equivalent) will extend from the top of the tunnel to 10' from the floor to block the line of site from the entrance to the blowers.
4. An 8' tall wall will be constructed along the south and east property line. See Exhibit F.

2.0 Introduction

2.1 Purpose of Analysis and Study Objectives

This noise impact study aims to evaluate the potential noise impacts for the Project study area and recommend noise mitigation measures, if necessary, to minimize the potential noise impacts. The assessment was conducted and compared to potentially applicable noise standards set forth by the State and/or local agencies. Consistent with the County's Noise Guidelines, the Project must demonstrate compliance with the applicable noise zoning ordinance and sound attenuation requirements.

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 evaluation of the existing ambient noise environment
- An analysis of stationary noise impact (e.g., blowers and vacuums) from the Project site to adjacent land uses

2.2 Site Location and Study Area

The Project site is located along the east side of East Lake Avenue between Eaton Avenue and Tuttle Avenue in the City of Watsonville, CA, as shown in Exhibit A. The land uses directly surrounding the Project are commercial to the north, south, and west, and residential to the east and southeast. There are residential uses further north, west, and east. E Lake Avenue is to the west, Lake Village Drive is to the east, and Tuttle Avenue is to the south.

2.3 Proposed Project Description

The Project proposes to develop a 108-foot car wash tunnel and 18 covered vacuum stall systems. The site plan used for this is illustrated in Exhibit B. The Project operational hours are assumed to be between 7 AM to 9 PM, seven days per week.

Exhibit A

Location Map

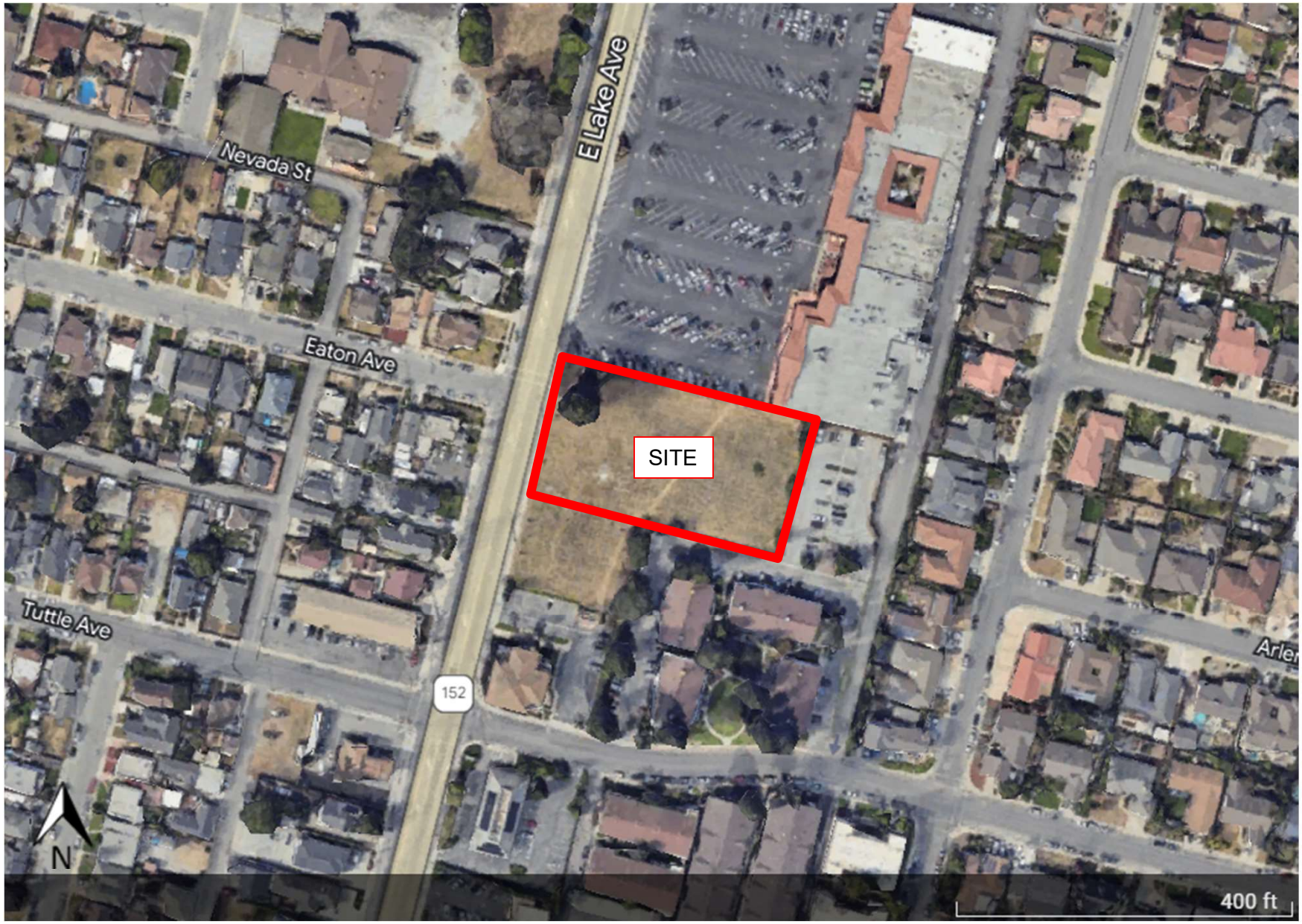
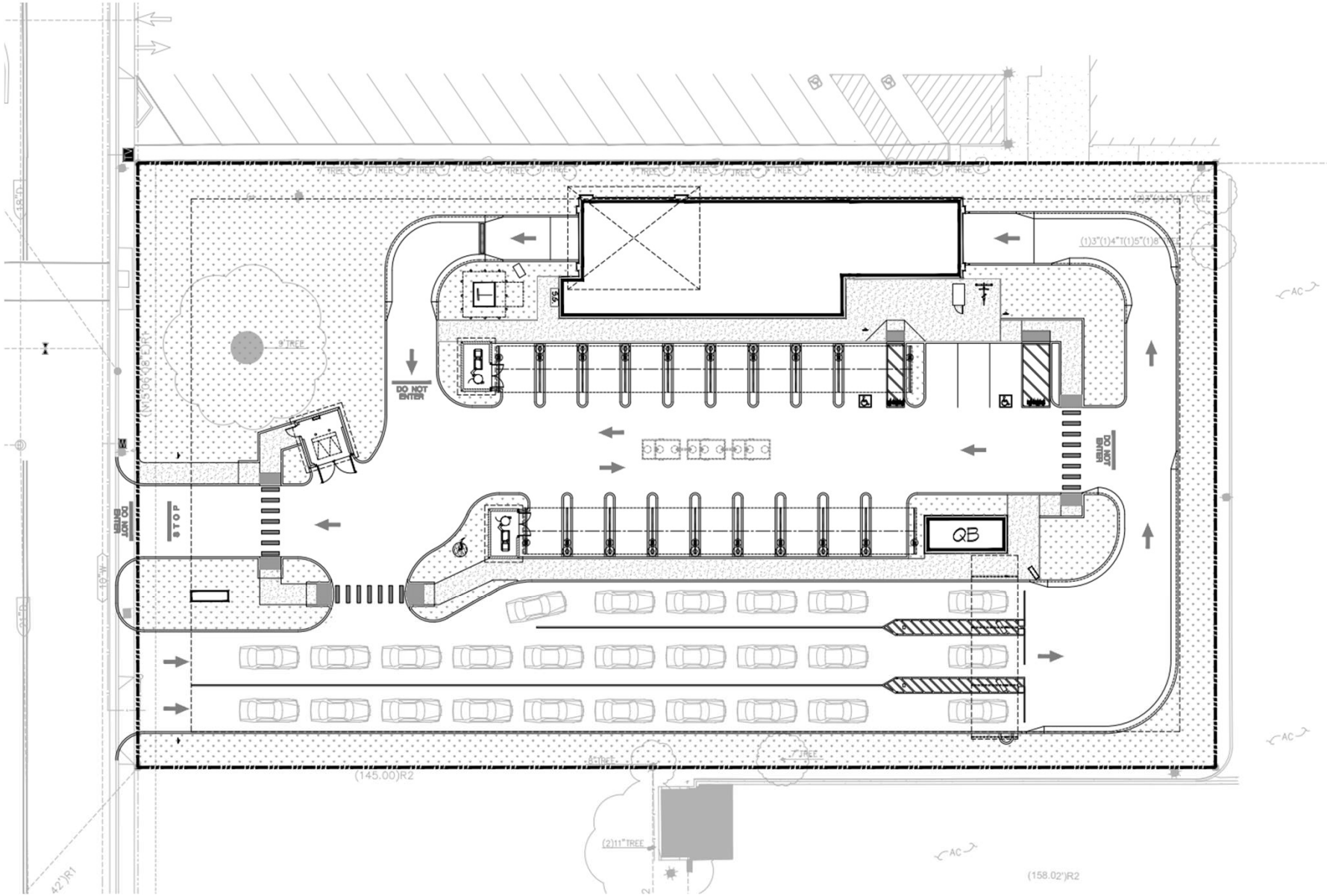


Exhibit B

Site Plan



3.0 Fundamentals of Noise

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

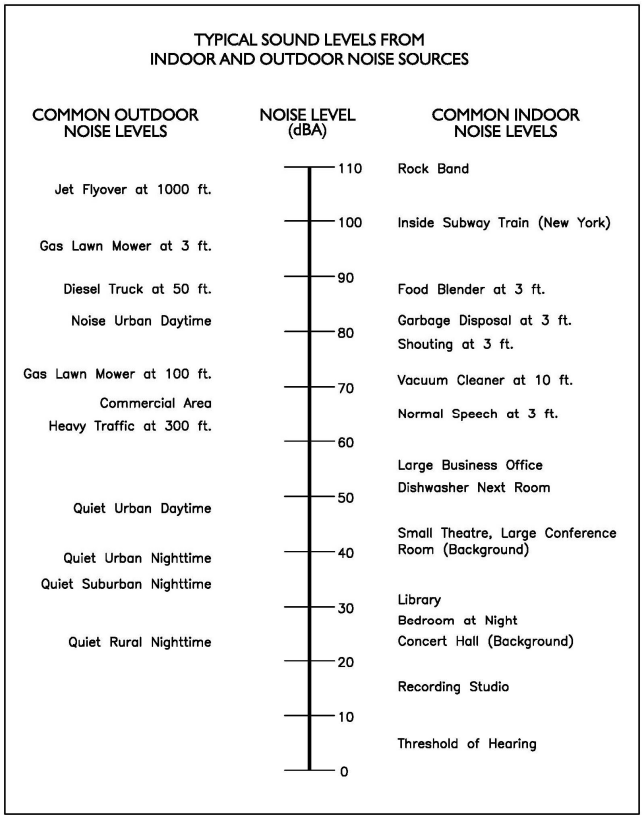
3.1 Sound, Noise, and Acoustics

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 the 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.

3.2 Frequency and Hertz

A continuous sound is described by its *frequency* (pitch) and *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 at 20 Hz to the high pitch of 20,000 Hz.

Exhibit C: Typical A-Weighted Noise Levels



3.3 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 meter ($\mu N/m^2$), also called micro-Pascal (µPa). One µPa is approximately one hundred billionths (0.00000000001) 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.

3.4 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 or 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.

3.5 Human Response to Changes in Noise Levels

Generally, the healthy human ear is most sensitive to sounds between 1,000 Hz and 5,000 Hz (A-weighted scale). 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 the 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 traffic volume on a highway) would result in a barely perceptible change in sound level.

3.6 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 the addition of five (5) decibels to sound levels in the evening from 7:00 to 10:00 PM and after the 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, L99, etc.

Noise: *A*ny unwanted sound or sound which is undesirable because it interferes with speech and hearing, 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.

3.7 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 at least 200 feet from a noise source. Wind, temperature, air humidity, and turbulence can further impact how far sound can travel.

4.0 Regulatory Setting

The proposed Project is located in the City of Watsonville, California, 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) was originally 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 for regulating noise from aircraft and airports. The Federal Highway Administration (FHWA) is responsible for regulating 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 Housing and Urban Development (HUD) is responsible for establishing noise regulations as it relates to exterior/interior noise levels for new HUD-assisted housing developments near high-noise areas.

The federal government advocates that local jurisdictions 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 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 ordinances 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 the compatibility of sensitive uses with various incremental levels of noise.

The State of California has established noise insulation standards as outlined in Title 24 of the California Building Code (CBC), 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 usually recognizes 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.

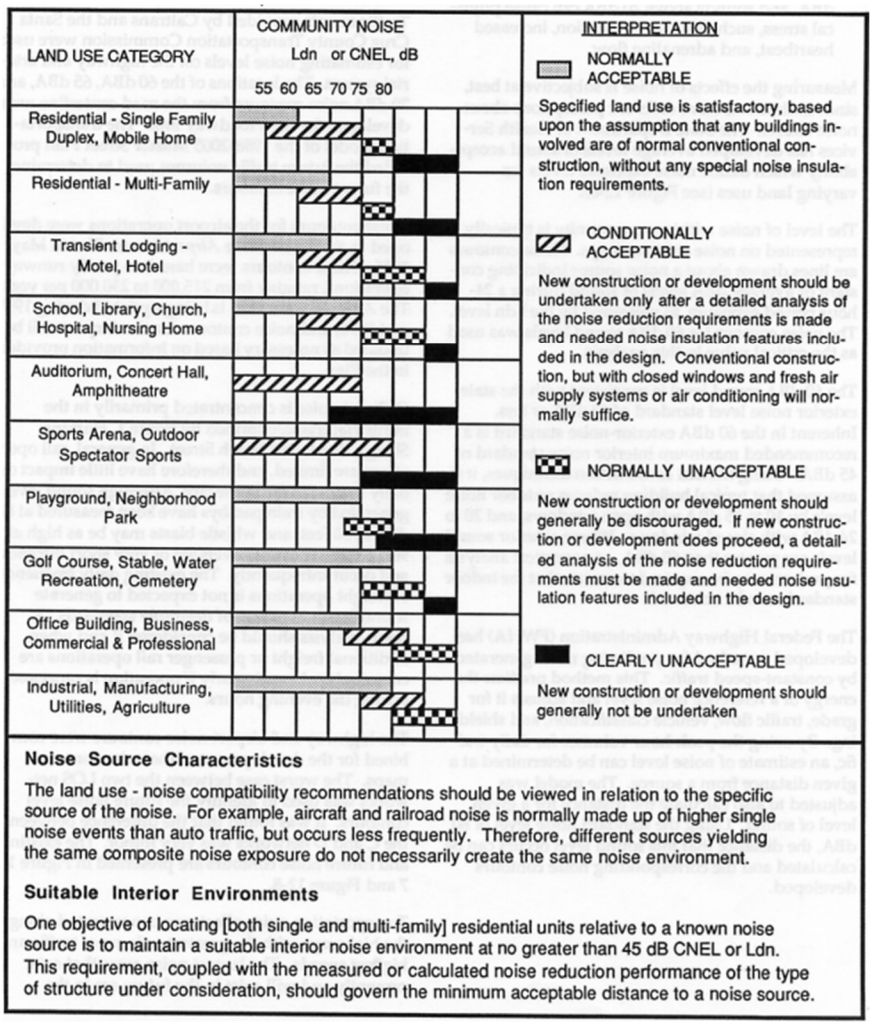
4.3 City of Watsonville Noise Regulations

The City of Watsonville outlines their noise regulations and standards within the Municipal Code and the Public Safety Element of the City of Watsonville General Plan.

City of Watsonville General Plan

Applicable policies and standards governing environmental noise in the City are set forth in the General Plan's Public Safety Element. Figure 12-6 (Exhibit D of this report) of the City's Public Safety Element outlines the exterior noise standards for community noise environments.

Exhibit D: Noise/Land Use Compatibility Matrix



In addition to the noise standards, the City has outlined goals, policies, and implementation measures to reduce potential noise impacts, which are presented below:

Goals, Policies, and Implementation Measures
Goals, policies, and implementation measures from the Noise Element that would mitigate potential impacts on noise include the following.

Goal 12.8: **Noise Hazard Control.** Evaluate new and existing land uses in the city for compatibility related to noise effects and require, as appropriate, mitigation where harmful effects can be identified and measurable improvements will result.

Policy 12.M: **Noise.** The City shall utilize land use regulations and enforcement to ensure that noise levels in developed areas are kept at acceptable levels, and that future noise-sensitive land uses are protected from noise that is harmful.

Implementation Measures:

12.M.4: Soundproofing – The City shall use the development review process and provisions of the Uniform Building Code to ensure adequate levels of soundproofing in all new construction.

12.M.6: Site Planning – The City shall evaluate sire orientation and building design to decrease the potential for noise intrusion, using the noise contour map and compatibility guidelines.

City of Watsonville Municipal Code
Chapter 5-8 in the City of Watsonville's Municipal Code outlines the City's exterior noise limits as it relates to stationary noise sources.

Section 5-8.01 Offensive noise prohibited.

It shall be unlawful for any person on residential property or a public way to make or continue, or cause to be made or continued, any offensive, excessive, unnecessary, or unusually loud noise or any noise which either annoys, disturbs, injures, or endangers the comfort, repose, health, peace, or safety of others on residential property or public ways within the City.

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

MD conducted two (2) short-term noise measurements near the Project site, representing the noise level from the traffic conditions along surrounding roadways (see Appendix A for the field sheet data).

5.2 Stationary Noise Modeling

SoundPLAN (SP) acoustical modeling software was utilized to model future worst-case stationary noise impacts to the adjacent land uses. SP is capable of evaluating multiple stationary noise source impacts at various receiver locations. SP's software utilizes algorithms (based on the inverse square law and reference equipment noise level data) to calculate noise level projections. The software allows the user to input specific noise sources, spectral content, sound barriers, building placement, topography, and sensitive receptor locations.

The future worst-case noise level projections were modeled using referenced sound level data for the various stationary on-site sources (vacuums and car wash blowers at the exit). The SP model assumes a total of 18 vacuums and the dryer systems are operating simultaneously (worst-case scenario) when the noise will, in reality, be intermittent and lower in noise level. In addition, the modeling takes into account the louver, windows, and openings on the car wash tunnel based on the plan elevations. The reference vacuum equipment and blower system sound level data are provided in Appendix C.

All other noise-producing equipment (e.g., compressors, pumps) will be housed within mechanical equipment rooms.

The following outlines the project design features:

1. The Project will incorporate a 12 Sonny's blower system with the silencer package installed or equivalent to meet these acoustical benchmarks.
2. An acoustic liner (Acoustiblok perforated metal panels or equivalent) will line 15' of the exit (see Appendix C).
3. An interior lined wall (Acoustiblok perforated metal panels or equivalent) will extend from the top of the tunnel to 10' from the floor to block the line of site from the entrance to the blowers.
4. An 8' tall wall will be constructed along the south and east property line. See Exhibit F.

6.0 Existing Noise Environment

Two (2) 15-minute ambient noise measurements were taken at the project site to determine the existing ambient noise levels. Noise data indicates that traffic along E Lake Avenue is the primary source of noise impacting the site and the surrounding area.

6.1 Short-Term Noise Measurement Results

The results of the 15-minute measurements are presented in Table 1.

Table 1: Short-Term Noise Measurement Data (dBA)

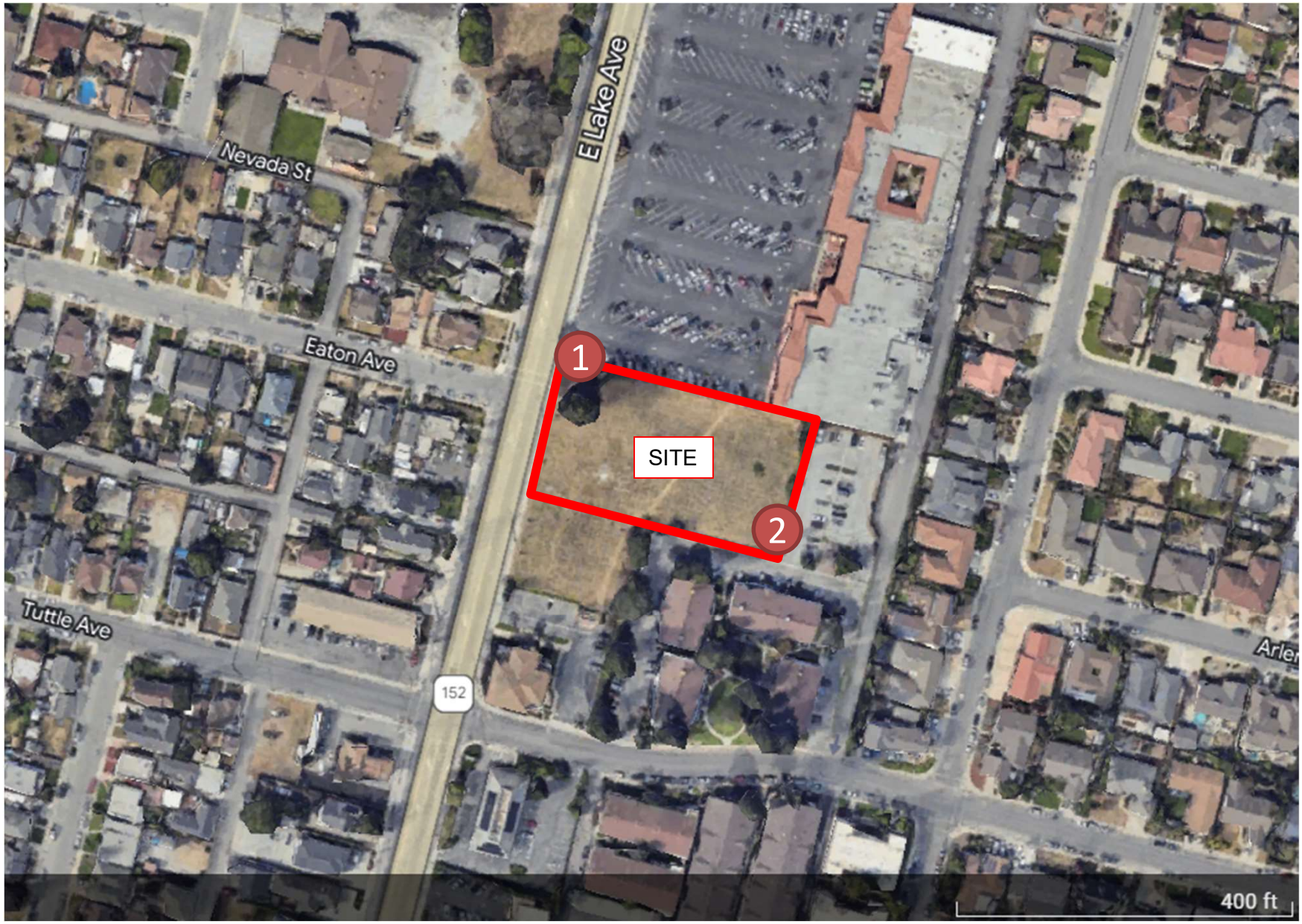
Location	Start Time	Stop Time	Leq	Lmax	Lmin	L(2)	L(8)	L(25)	L(50)	L(90)
NM1	6:53 PM	7:08 PM	65.3	78.2	48.9	71.5	69.2	66.4	62.8	54.5
NM2	7:12 PM	7:27 PM	46.7	56.7	39.8	52.4	49.4	47.5	45.7	42
Notes: 1. Short-term noise monitoring locations are illustrated in Exhibit E.										

For this evaluation, MD has utilized the measured ambient noise levels of 47 to 65 dBA Leq for the surrounding land uses.

Exhibit E

Measurement Locations

= Short-Term Monitoring Location



7.0 Future Noise Environment Impacts

This assessment analyzes future noise impacts as a result of the Project. The analysis details the estimated exterior noise levels. Stationary noise impacts are analyzed from the noise sources on-site such as dryers/blowers and vacuums.

7.1 Stationary Source Noise

The following sections outline the exterior noise levels associated with the proposed Project.

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

Sensitive receptors affected by Project operational noise include existing residential uses to the east, south, and west. The worst-case stationary noise was modeled using SoundPLAN acoustical modeling software. Worst-case assumes the blowers, vacuums, and equipment are always operational when in reality, the noise will be intermittent and cycle on/off depending on the customer usage.

A total of three (3) receptors (R1 – R3) were modeled to evaluate the proposed Project's operational impact. This study analyzes the Project only operational noise level projections and the Project plus ambient noise level projections. Table 2 shows daytime operational noise level projections.

Table 2: Worst-Case Predicted Operational Noise Levels (dBA)

Receptor[1]	Floor	Existing Ambient Noise Level (dBA, Leq)[2]	Project Noise Level (dBA, Leq)[3]	Total Combined Noise Level (dBA, Leq)	Change in Noise Level as Result of Project
1	1	65	60	66	1
2	1	47	44	49	2
	2	47	49	51	4
3	1	47	44	49	2
4	1	47	49	51	4

Notes:
1. Receptors 1 thru 3 represent surrounding residential uses.
2. See Appendix A for the traffic ambient noise projections.
3. See Exhibit E for the operational noise level projections at said receptors.

The model indicates that the project-only noise level will be 44 to 60 dBA Leq at the residential uses. The project plus ambient noise level will increase the existing ambient level by 1 to 4 dB at the residential receptors. Table 3 provides the characteristics associated with changes in noise levels.

Table 3: Change in Noise Level Characteristics

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

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

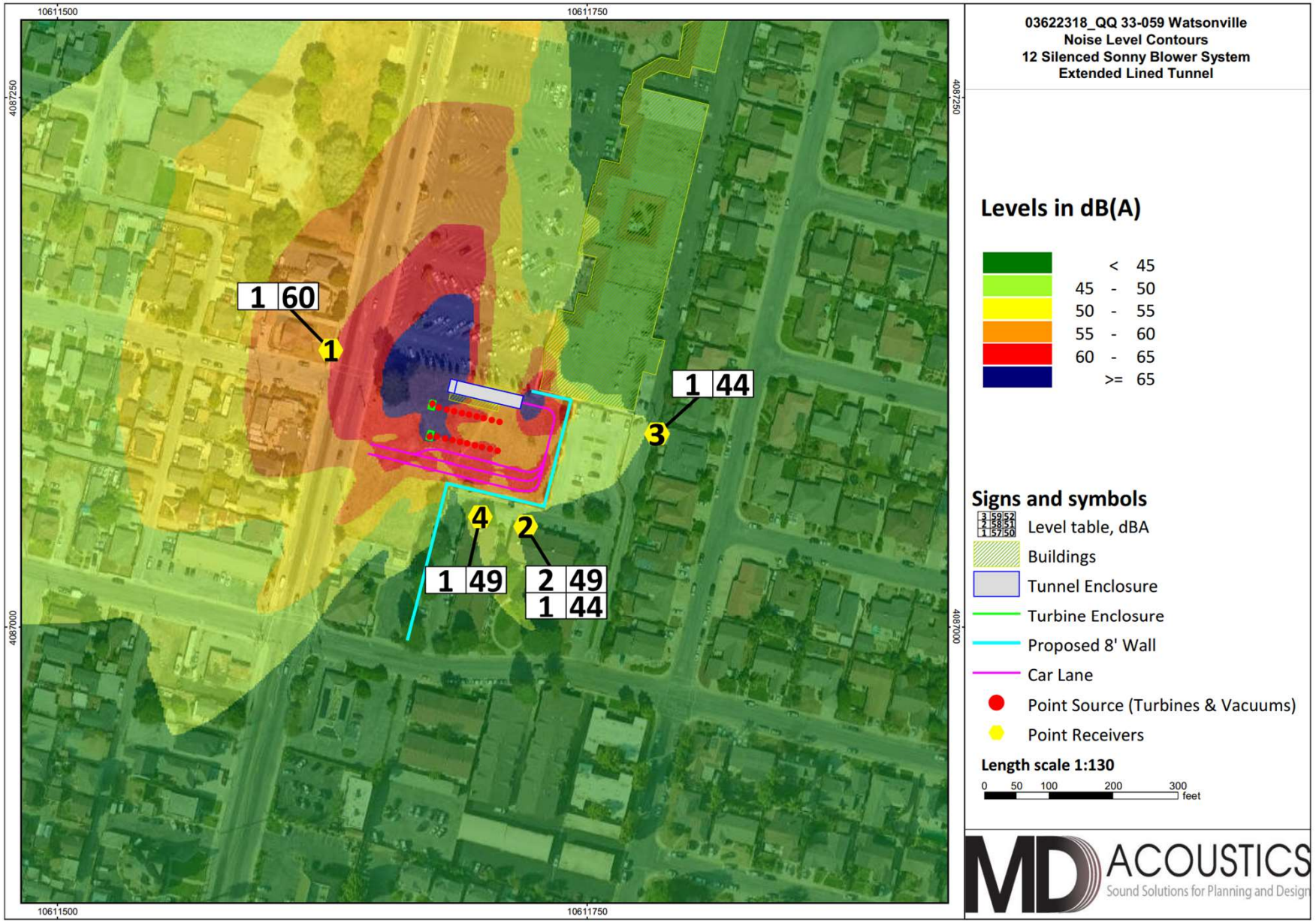
It takes a change of 3 dB for the human ear to perceive a difference. Therefore, the change in noise level would be "Not Perceptible" to "Just Perceptible" at the residential receptors. Thus, the change in noise level will be less than significant.

The following outlines the project design features:

1. The Project will incorporate a 12 Sonny's blower system with the silencer package installed or equivalent to meet these acoustical benchmarks.
2. An acoustic liner (Acoustiblok perforated metal panels or equivalent) will line 15' of the exit (see Appendix C).
3. An interior lined wall (Acoustiblok perforated metal panels or equivalent) will extend from the top of the tunnel to 10' from the floor to block the line of site from the entrance to the blowers.
4. An 8' tall wall will be constructed along the south and east property line. See Exhibit F.

Exhibit F

Operational Noise Level Contours



8.0 References

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

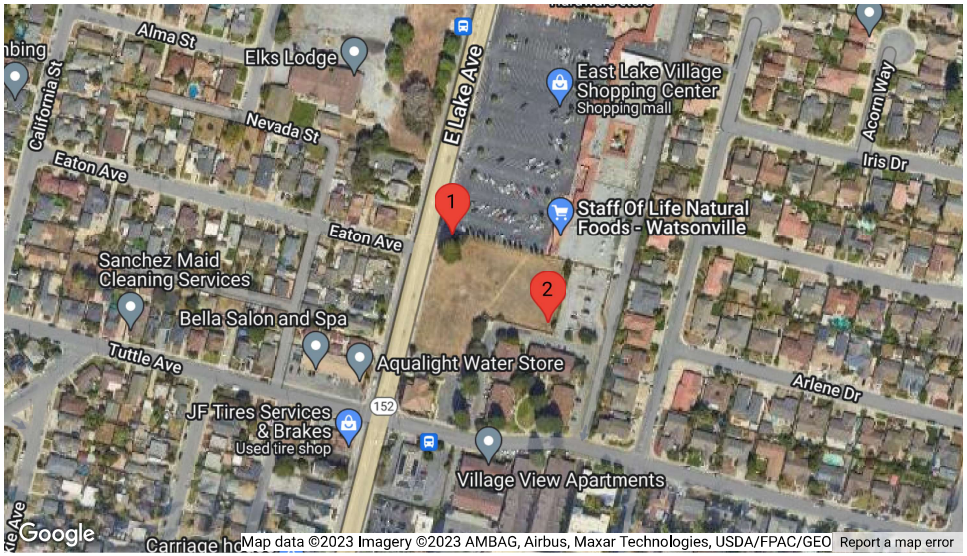
City of Watsonville: Public Safety Element of the General Plan

City of Watsonville: Chapter 5-8 of the Municipal Code

Appendix A:
Field Measurement Data

15-Minute Continuous Noise Measurement Datasheet

Project Name:	QQ 33-059 Watsonville	**Site Observations:**	
Project: #/Name:	0362-2023-018	71°, sunny and clear, winds 5 to 10 mph, moderate to heavy traffic	
Site Address/Location:	East Lake Ave and Eaton Ave		
Date:	08/29/2023		
Field Tech/Engineer:	Dennis Jordan / Rachel Edelman		
Sound Meter:	XL2, NTI	**SN:** A2A-05967-E0	
Settings:	A-weighted, slow, 1-sec, 15-minute interval		
Site Id:	ST-1, ST-2		



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15-Minute Continuous Noise Measurement Datasheet - Cont.

Project Name: QQ 33-059 Watsonville

Site Address/Location: East Lake Ave and Eaton Ave

Site Id: ST-1, ST-2

Figure 1: ST-1

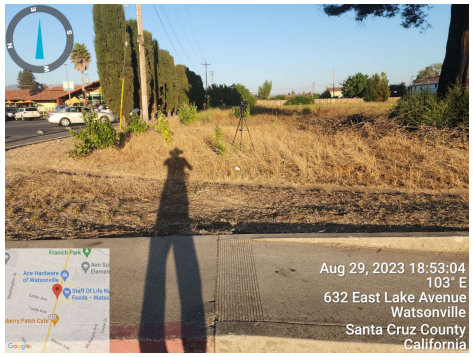

Figure 2: ST-2

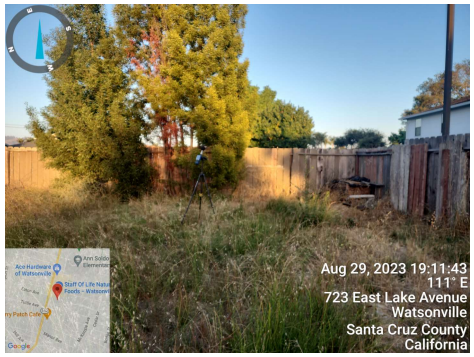

Table 1: Baseline Noise Measurement Summary

Location	Start	Stop	Leq	Lmax	Lmin	L2	L8	L25	L50	L90
ST-1	6:53 PM	7:08 PM	65.3	78.2	48.9	71.5	69.2	66.4	62.8	54.5
ST-2	7:12 PM	7:27 PM	46.7	56.7	39.8	52.4	49.4	47.5	45.7	42

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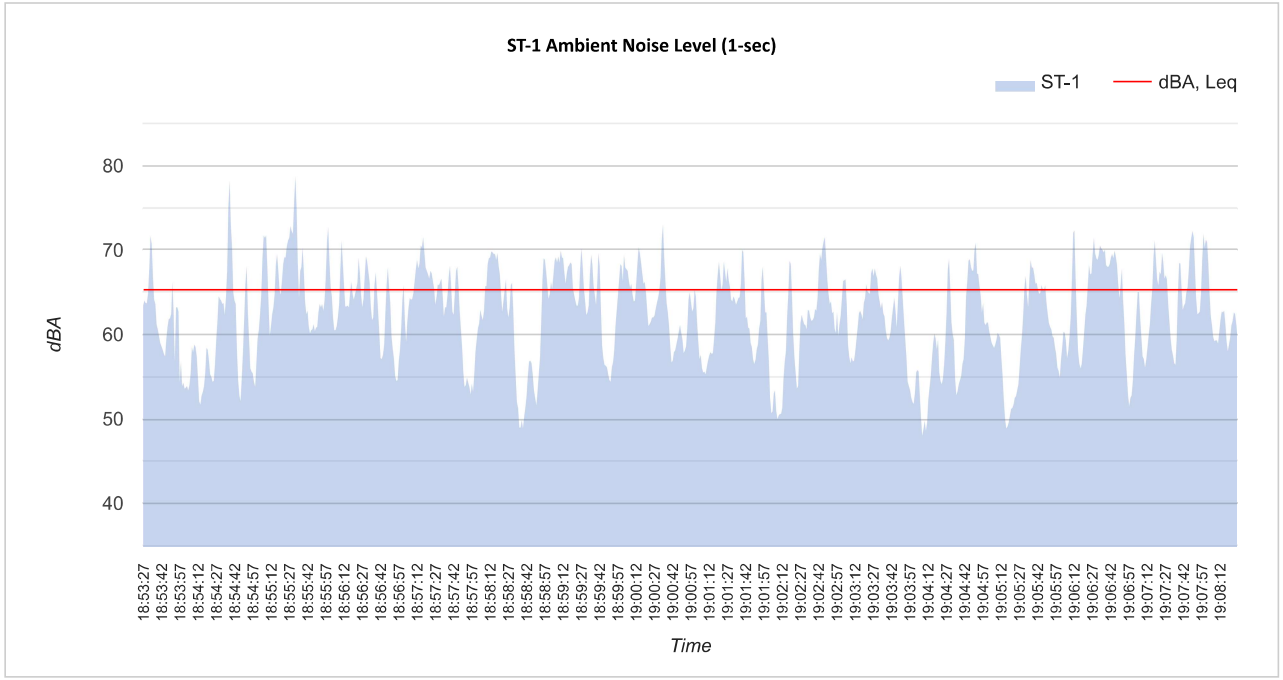
15-Minute Continuous Noise Measurement Datasheet - Cont.

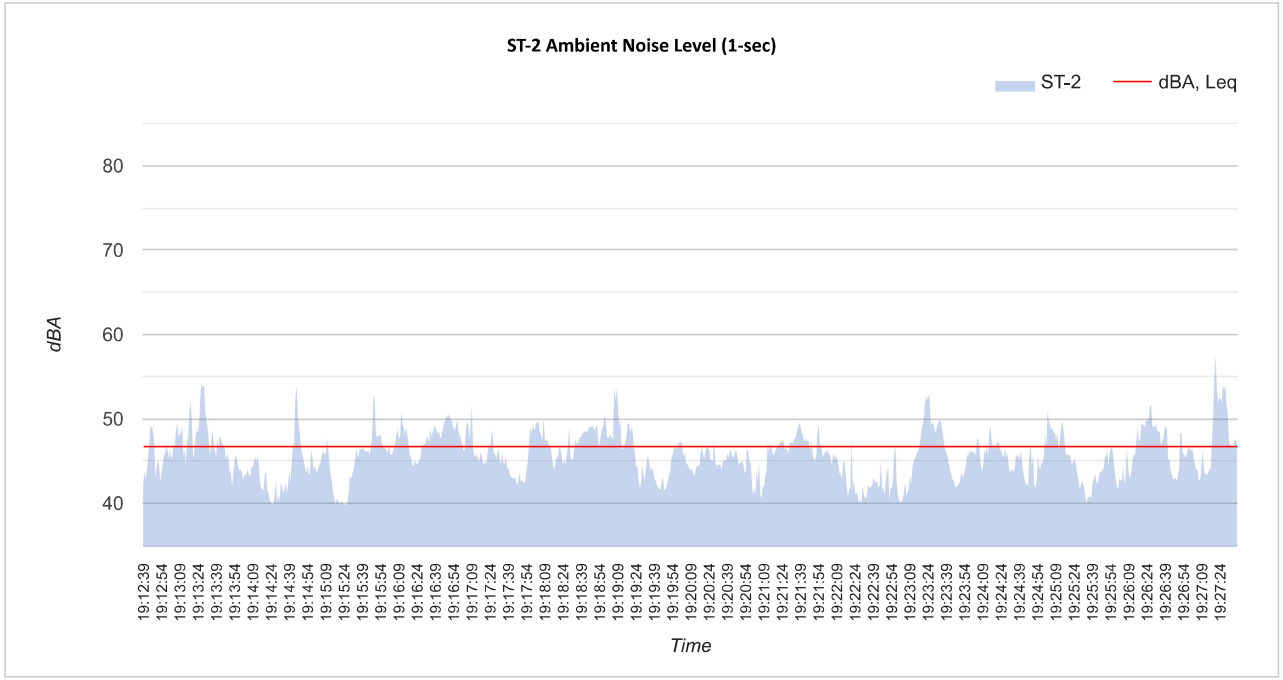
Project Name:	QQ 33-059 Watsonville	**Site Topo:**	Single/Two story & Buildings	**Noise Source(s) w/ Distance:**
Site Address/Location:	East Lake Ave and Eaton Ave	**Meteorological Cond.:**	71°, winds 5-10 mph, clear and sunny	Road Noise / Hwy 152 25 ft
Site Id:	ST-1	**Ground Type:**	Buildings, Housing, Cement, Asphalt, Dirt and Vegetation	



MD ACOUSTICS

15-Minute Continuous Noise Measurement Datasheet - Cont.

Project Name:	QQ 33-059 Watsonville	**Site Topo:**	Single/Two story housing and bui	**Noise Source(s) w/ Distance:**
Site Address/Location:	East Lake Ave and Eaton Ave	**Meteorological Cond.:**	71°, winds 5-10 mph, clear and sunny	Road Noise / Hwy 152
Site Id:	ST-2	**Ground Type:**	Buildings, Housing, Cement, Asphalt, Dirt and Vegetation	



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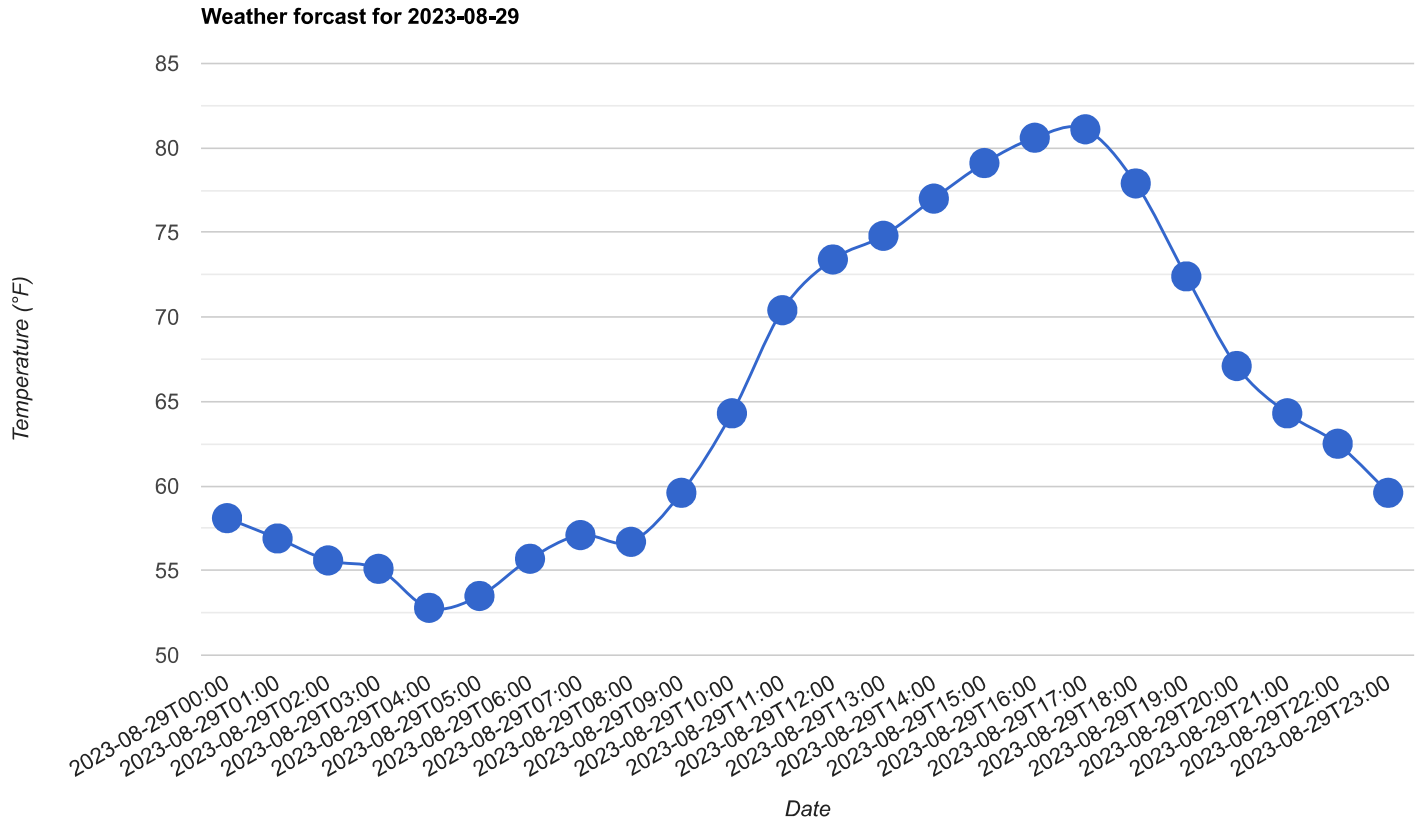
Weather forcast for 2023-08-29
Temperature (°F)
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60
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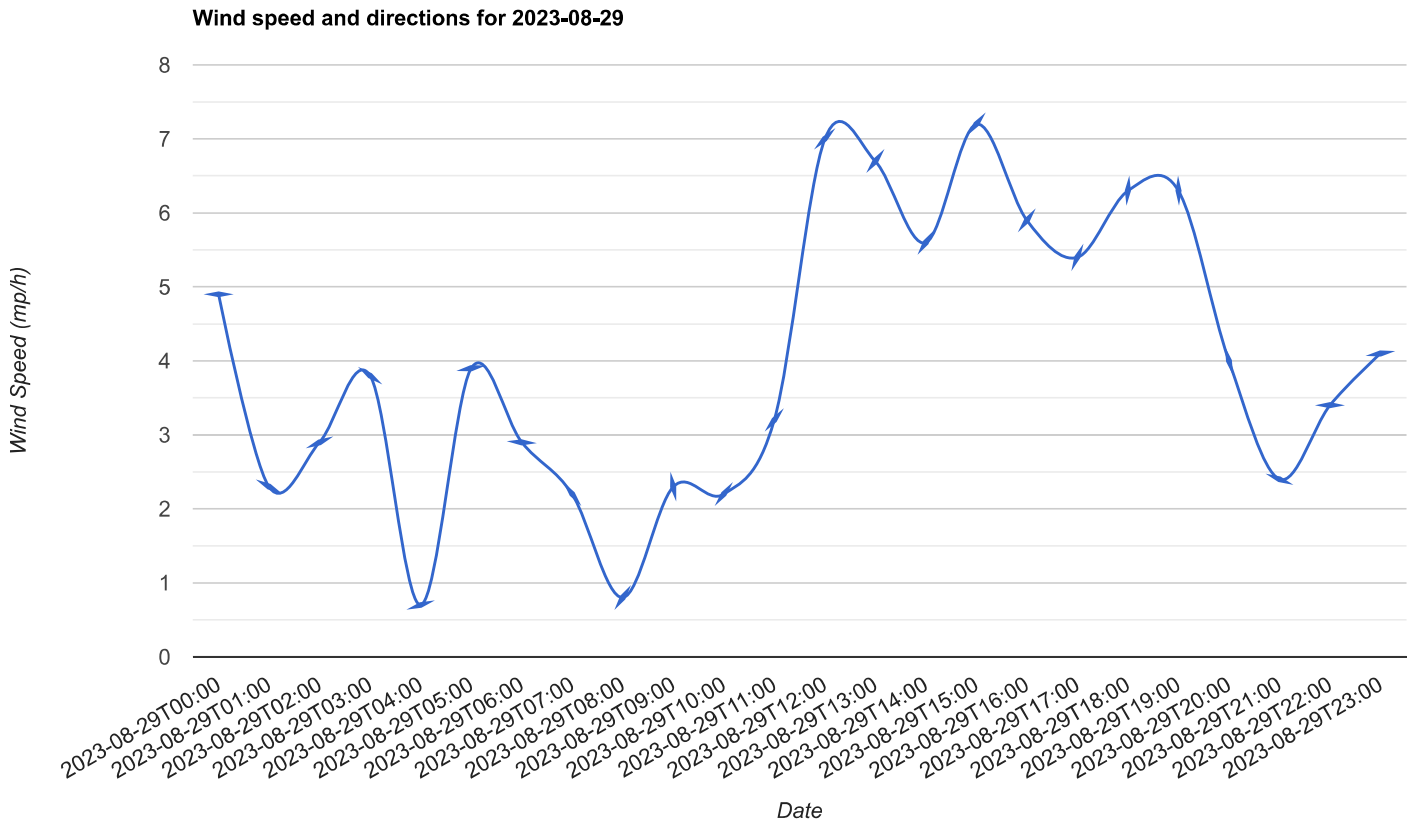
2023-08-29T19:00
2023-08-29T20:00
2023-08-29T21:00
2023-08-29T22:00
2023-08-29T23:00
Date


Wind speed and directions for 2023-08-29
Wind Speed (mp/h)
8
7
6
5
4
3
2
1
0
2023-08-29T00:00
2023-08-29T01:00
2023-08-29T02:00
2023-08-29T03:00
2023-08-29T04:00
2023-08-29T05:00
2023-08-29T06:00
2023-08-29T07:00
2023-08-29T08:00
2023-08-29T09:00
2023-08-29T10:00
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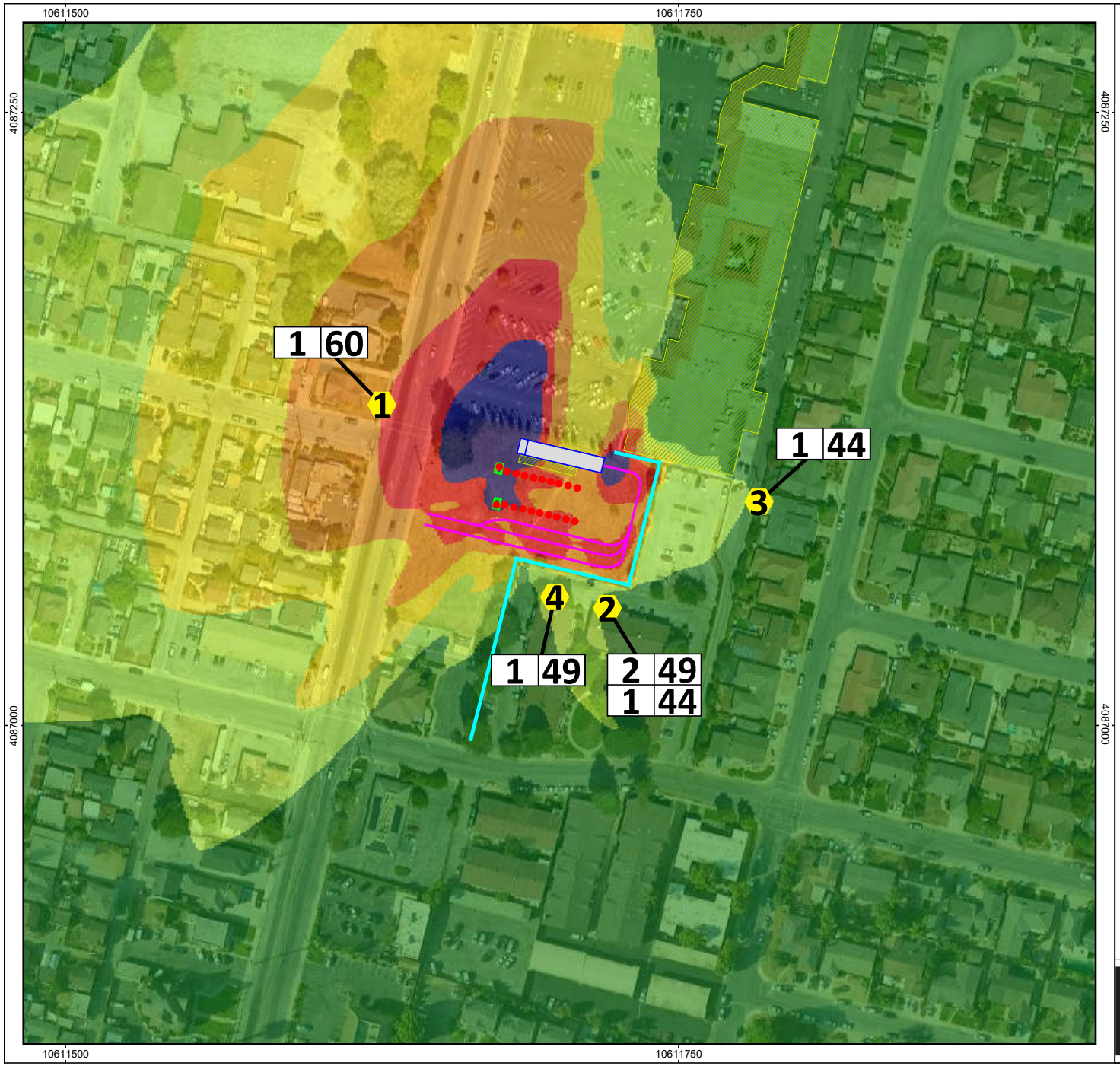
2023-08-29T12:00
2023-08-29T13:00
2023-08-29T14:00
2023-08-29T15:00
2023-08-29T16:00
2023-08-29T17:00
2023-08-29T18:00
2023-08-29T19:00
2023-08-29T20:00
2023-08-29T21:00
2023-08-29T22:00
2023-08-29T23:00
Date

Appendix B:

SoundPLAN Input/Outputs



03622318_QQ 33-059 Watsonville
Noise Level Contours
12 Silenced Sonny Blower System
Extended Lined Tunnel

Levels in dB(A)

<	45
45 -	50
50 -	55
55 -	60
60 -	65
>=	65

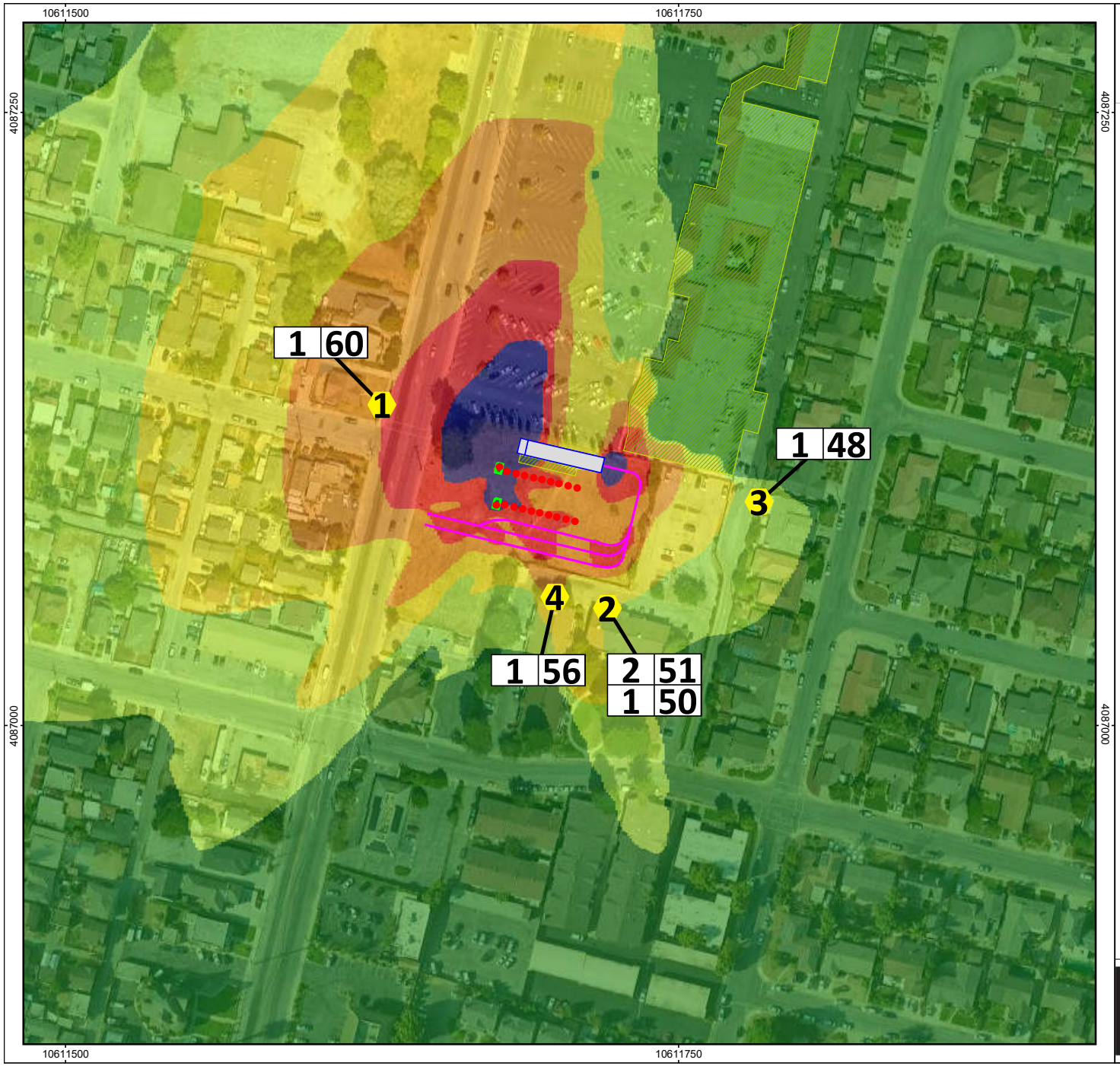
Signs and symbols

- Level table, dBA
- Buildings
- Tunnel Enclosure
- Turbine Enclosure
- Proposed 8' Wall
- Car Lane
- Point Source (Turbines & Vacuums)
- Point Receivers

Length scale 1:130

0 50 100 200 300 feet

MD ACOUSTICS
Sound Solutions for Planning and Design



03622318_QQ 33-059 Watsonville
Noise Level Contours
12 Silenced Sonny Blower System
Extended Lined Tunnel

Levels in dB(A)

<	45
45 -	50
50 -	55
55 -	60
60 -	65
>=	65

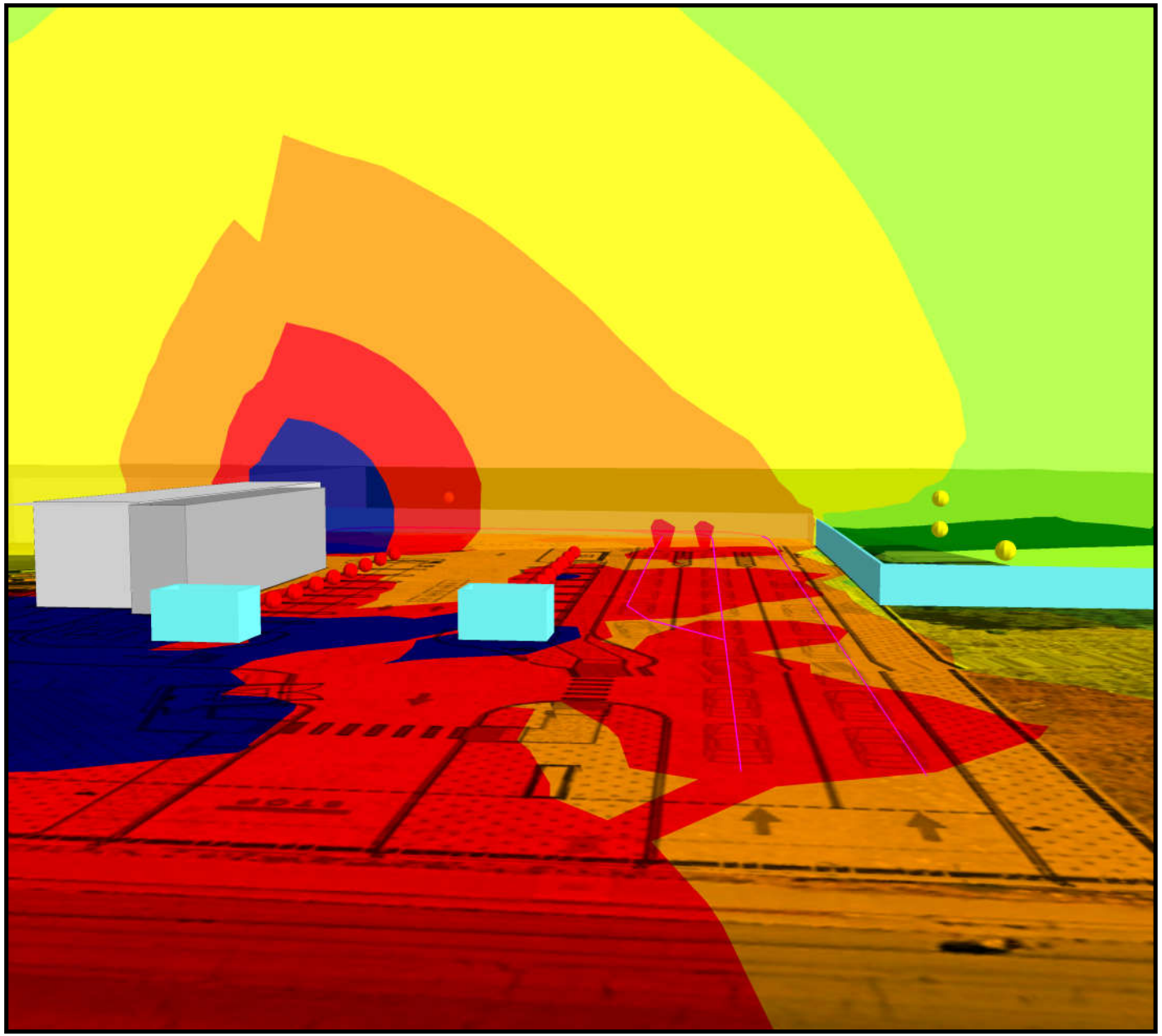
Signs and symbols

- Level table, dBA
- Buildings
- Tunnel Enclosure
- Turbine Enclosure
- Proposed 8' Wall
- Car Lane
- Point Source (Turbines & Vacuums)
- Point Receivers

Length scale 1:130

0 50 100 200 300 feet

MD ACOUSTICS
Sound Solutions for Planning and Design



QQ 33-059 Watsonville
Noise Level Contours

Noise level
Leq,d
in dB(A)

	<= 45
45 <	<= 50
50 <	<= 55
55 <	<= 60
60 <	<= 65
65 <	

Signs and symbols

- Level table, dBA
- Buildings
- Point Receiver
- Proposed 8' Wall

Length scale 1:230

0 150 300 600 9

MD ACOUSTICS
Sound Solutions for Planning and Design

QQ 33-059 Watsonville
Octave spectra of the sources in dB(A) - 007 - 12 Silenced Sonny - Extended Lined - Wall: Outdoor SP

3

Name	Source type	I or A	Li	R'w	L'w	Lw	KI	KT	DO-Wall	Emission spectrum	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz	16kHz
		m,m²	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)
	Point				0.0	0.0	0.0	0.0	0					0.0					
001 - 12 Silenced Sonny - Lined Tunnel-Entrance	Area	15.61	79.1	0.0	79.1	91.0	0.0	0.0	3	235_Entrance		69.6	83.7	88.7	83.7	74.4	57.8		
001 - 12 Silenced Sonny - Lined Tunnel-Exit	Area	9.29	94.2	0.0	94.2	103.9	0.0	0.0	3	239_Exit		78.8	89.6	97.5	99.0	99.4	91.3		
001 - 12 Silenced Sonny - Lined Tunnel-Facade 01	Area	191.71	87.4	57.0	32.5	55.3	0.0	0.0	3	232_Facade 01		42.5	50.9	52.1	44.2	40.5	29.3		
001 - 12 Silenced Sonny - Lined Tunnel-Facade 02	Area	21.90	84.1	57.0	30.6	44.0	0.0	0.0	3	234_Facade 02		29.2	41.3	40.3	26.1	13.3	-7.6		
001 - 12 Silenced Sonny - Lined Tunnel-Facade 03	Area	191.71	87.4	57.0	32.5	55.3	0.0	0.0	3	236_Facade 03		42.5	50.9	52.1	44.2	40.4	29.3		
001 - 12 Silenced Sonny - Lined Tunnel-Facade 04	Area	28.21	92.6	57.0	37.4	51.9	0.0	0.0	3	238_Facade 04		39.2	47.2	48.7	41.2	37.6	26.6		
001 - 12 Silenced Sonny - Lined Tunnel-Roof 01	Area	199.72	87.0	57.0	32.3	55.3	0.0	0.0	0	224_Roof 01_		42.6	50.9	52.0	44.1	40.2	29.0		
Car Lane	Line	133.46			62.8	84.1	0.0	0.0	0	Drive-Thru - Idiling Car @ 6ft	68.1	69.6	73.1	76.8	77.6	78.8	75.3	67.1	60.8
Car Lane	Line	67.35			62.8	81.1	0.0	0.0	0	Drive-Thru - Idiling Car @ 6ft	65.1	66.6	70.1	73.8	74.6	75.9	72.3	64.2	57.8
Car Lane	Line	88.10			62.8	82.3	0.0	0.0	0	Drive-Thru - Idiling Car @ 6ft	66.3	67.8	71.3	75.0	75.8	77.0	73.5	65.3	59.0
Turbine	Point				72.6	72.6	0.0	0.0	0	Vacutech Turbine	44.9	57.3	55.1	52.0	55.6	59.5	66.2	69.5	63.7
Turbine	Point				72.6	72.6	0.0	0.0	0	Vacutech Turbine	44.9	57.3	55.1	52.0	55.6	59.5	66.2	69.5	63.7
Vac	Point				81.0	81.0	0.0	0.0	0	Vacutech - in car	61.6	69.0	76.6	72.9	71.4	73.2	72.6	67.6	58.1
Vac	Point				81.0	81.0	0.0	0.0	0	Vacutech - in car	61.6	69.0	76.6	72.9	71.4	73.2	72.6	67.6	58.1
Vac	Point				81.0	81.0	0.0	0.0	0	Vacutech - in car	61.6	69.0	76.6	72.9	71.4	73.2	72.6	67.6	58.1
Vac	Point				81.0	81.0	0.0	0.0	0	Vacutech - in car	61.6	69.0	76.6	72.9	71.4	73.2	72.6	67.6	58.1
Vac	Point				81.0	81.0	0.0	0.0	0	Vacutech - in car	61.6	69.0	76.6	72.9	71.4	73.2	72.6	67.6	58.1
Vac	Point				81.0	81.0	0.0	0.0	0	Vacutech - in car	61.6	69.0	76.6	72.9	71.4	73.2	72.6	67.6	58.1
Vac	Point				81.0	81.0	0.0	0.0	0	Vacutech - in car	61.6	69.0	76.6	72.9	71.4	73.2	72.6	67.6	58.1
Vac	Point				81.0	81.0	0.0	0.0	0	Vacutech - in car	61.6	69.0	76.6	72.9	71.4	73.2	72.6	67.6	58.1
Vac	Point				81.0	81.0	0.0	0.0	0	Vacutech - in car	61.6	69.0	76.6	72.9	71.4	73.2	72.6	67.6	58.1
Vac	Point				81.0	81.0	0.0	0.0	0	Vacutech - in car	61.6	69.0	76.6	72.9	71.4	73.2	72.6	67.6	58.1
Vac	Point				81.0	81.0	0.0	0.0	0	Vacutech - in car	61.6	69.0	76.6	72.9	71.4	73.2	72.6	67.6	58.1
Vac	Point				81.0	81.0	0.0	0.0	0	Vacutech - in car	61.6	69.0	76.6	72.9	71.4	73.2	72.6	67.6	58.1
Vac	Point				81.0	81.0	0.0	0.0	0	Vacutech - in car	61.6	69.0	76.6	72.9	71.4	73.2	72.6	67.6	58.1
Vac	Point				81.0	81.0	0.0	0.0	0	Vacutech - in car	61.6	69.0	76.6	72.9	71.4	73.2	72.6	67.6	58.1
Vac	Point				81.0	81.0	0.0	0.0	0	Vacutech - in car	61.6	69.0	76.6	72.9	71.4	73.2	72.6	67.6	58.1
Vac	Point				81.0	81.0	0.0	0.0	0	Vacutech - in car	61.6	69.0	76.6	72.9	71.4	73.2	72.6	67.6	58.1
Vac	Point				81.0	81.0	0.0	0.0	0	Vacutech - in car	61.6	69.0	76.6	72.9	71.4	73.2	72.6	67.6	58.1

Source	Source type	Leq,d dB(A)
Receiver R1 Fl G Lr,lim dB(A) Leq,d 59.9 dB(A)	Sigma(Leq,d) 0.0 dB(A)	
001 - 12 Silenced Sonny - Lined Tunnel-Exit	Area	59.8
Car Lane	Line	33.5
Car Lane	Line	33.2
Car Lane	Line	30.1
001 - 12 Silenced Sonny - Lined Tunnel-Entrance	Area	24.0
Vac	Point	23.5
Turbine	Point	23.4
Vac	Point	23.4
	Point	23.0
Vac	Point	22.9
Vac	Point	22.6
Turbine	Point	22.5
Vac	Point	22.4
Vac	Point	22.2
Vac	Point	22.0
Vac	Point	21.8
Vac	Point	21.6
Vac	Point	21.6
Vac	Point	21.2
Vac	Point	21.2
Vac	Point	21.1
Vac	Point	20.8
Vac	Point	19.6
Vac	Point	18.1
Vac	Point	17.4
001 - 12 Silenced Sonny - Lined Tunnel-Facade 03	Area	7.7
001 - 12 Silenced Sonny - Lined Tunnel-Facade 04	Area	6.4
001 - 12 Silenced Sonny - Lined Tunnel-Facade 01	Area	4.2
001 - 12 Silenced Sonny - Lined Tunnel-Roof 01	Area	1.7
001 - 12 Silenced Sonny - Lined Tunnel-Facade 02	Area	-17.3
Receiver R2 Fl G Lr,lim dB(A) Leq,d 44.5 dB(A)	Sigma(Leq,d) 0.0 dB(A)	
001 - 12 Silenced Sonny - Lined Tunnel-Entrance	Area	41.8
001 - 12 Silenced Sonny - Lined Tunnel-Exit	Area	36.0
Car Lane	Line	34.4
Car Lane	Line	32.5
Car Lane	Line	31.4
Vac	Point	23.2
Vac	Point	23.2
Vac	Point	22.8
Vac	Point	22.5
Vac	Point	22.5
Vac	Point	22.4
Vac	Point	22.3

Source	Source type	Leq,d dB(A)	
Vac	Point	22.2	
Vac	Point	22.1	
Vac	Point	21.8	
Vac	Point	21.8	
Vac	Point	21.8	
Vac	Point	21.7	
	Point	21.4	
Vac	Point	21.2	
Vac	Point	21.1	
Vac	Point	21.0	
Vac	Point	20.7	
Turbine	Point	17.1	
Turbine	Point	16.5	
001 - 12 Silenced Sonny - Lined Tunnel-Facade 01	Area	3.0	
001 - 12 Silenced Sonny - Lined Tunnel-Roof 01	Area	3.0	
001 - 12 Silenced Sonny - Lined Tunnel-Facade 02	Area	-4.3	
001 - 12 Silenced Sonny - Lined Tunnel-Facade 03	Area	-6.9	
001 - 12 Silenced Sonny - Lined Tunnel-Facade 04	Area	-15.9	
Receiver R2 Fl F2 Lr,lim dB(A) Leq,d 49.4 dB(A) Sigma(Leq,d) 0.0 dB(A)			
001 - 12 Silenced Sonny - Lined Tunnel-Entrance	Area	47.1	
Car Lane	Line	39.7	
001 - 12 Silenced Sonny - Lined Tunnel-Exit	Area	38.0	
Car Lane	Line	37.5	
Car Lane	Line	37.3	
Vac	Point	28.7	
Vac	Point	28.7	
Vac	Point	28.2	
Vac	Point	28.1	
Vac	Point	27.9	
Vac	Point	27.9	
Vac	Point	27.6	
Vac	Point	27.4	
Vac	Point	27.3	
Vac	Point	27.0	
Vac	Point	27.0	
Vac	Point	26.8	
Vac	Point	26.5	
Vac	Point	26.3	
	Point	26.2	
Vac	Point	25.9	
Vac	Point	25.7	
Vac	Point	25.5	
Turbine	Point	22.2	
Turbine	Point	22.2	
001 - 12 Silenced Sonny - Lined Tunnel-Facade 01	Area	7.6	

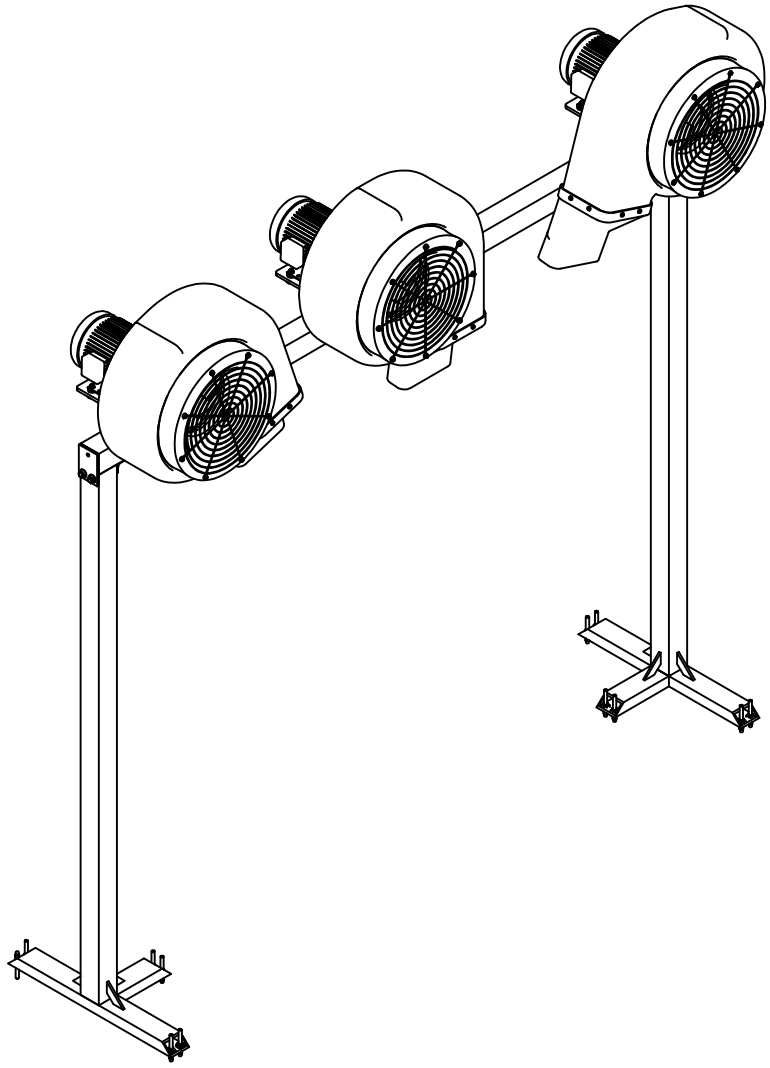
Source	Source type	Leq,d dB(A)	
001 - 12 Silenced Sonny - Lined Tunnel-Roof 01	Area	4.2	
001 - 12 Silenced Sonny - Lined Tunnel-Facade 02	Area	0.8	
001 - 12 Silenced Sonny - Lined Tunnel-Facade 03	Area	-4.6	
001 - 12 Silenced Sonny - Lined Tunnel-Facade 04	Area	-11.5	
Receiver R3 Fl G Lr,lim dB(A) Leq,d 44.3 dB(A)	Sigma(Leq,d) 0.0 dB(A)		
001 - 12 Silenced Sonny - Lined Tunnel-Entrance	Area	43.2	
001 - 12 Silenced Sonny - Lined Tunnel-Exit	Area	34.9	
Car Lane	Line	29.9	
Car Lane	Line	27.1	
Car Lane	Line	26.3	
Vac	Point	19.6	
Vac	Point	19.3	
Vac	Point	19.2	
Vac	Point	19.0	
Vac	Point	19.0	
Vac	Point	18.7	
Vac	Point	18.6	
Vac	Point	18.3	
Vac	Point	18.2	
Vac	Point	18.2	
Vac	Point	18.1	
Vac	Point	17.9	
Vac	Point	17.8	
	Point	17.5	
Vac	Point	17.4	
Vac	Point	17.0	
Vac	Point	16.8	
Vac	Point	16.8	
Turbine	Point	14.2	
Turbine	Point	12.8	
001 - 12 Silenced Sonny - Lined Tunnel-Facade 03	Area	3.6	
001 - 12 Silenced Sonny - Lined Tunnel-Roof 01	Area	2.9	
001 - 12 Silenced Sonny - Lined Tunnel-Facade 01	Area	0.3	
001 - 12 Silenced Sonny - Lined Tunnel-Facade 02	Area	-2.4	
001 - 12 Silenced Sonny - Lined Tunnel-Facade 04	Area	-15.3	
Receiver R4 Fl G Lr,lim dB(A) Leq,d 48.8 dB(A)	Sigma(Leq,d) 0.0 dB(A)		
001 - 12 Silenced Sonny - Lined Tunnel-Exit	Area	47.9	
Car Lane	Line	35.4	
Car Lane	Line	34.0	
Car Lane	Line	32.8	
001 - 12 Silenced Sonny - Lined Tunnel-Entrance	Area	26.4	
Vac	Point	25.1	
Vac	Point	25.0	
Vac	Point	24.9	

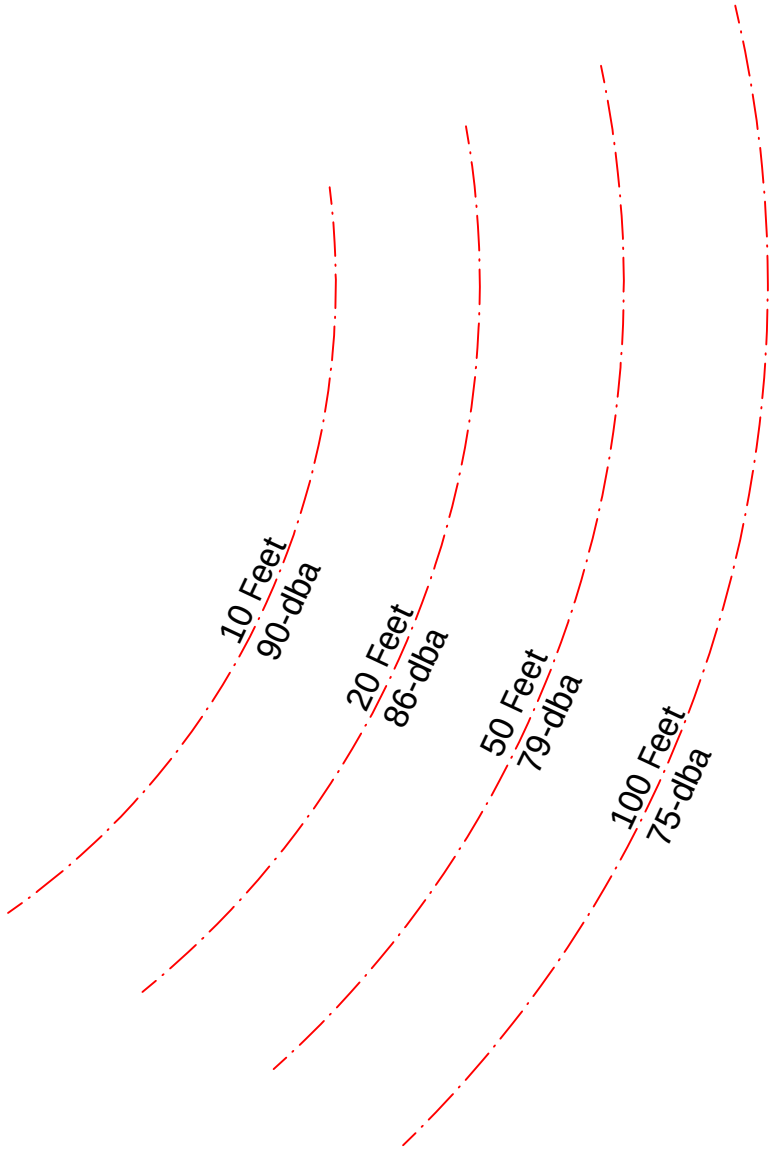
Source	Source type	Leq,d dB(A)	
Vac	Point	24.7	
Vac	Point	24.5	
Vac	Point	24.1	
Vac	Point	24.1	
Vac	Point	24.0	
Vac	Point	23.9	
Vac	Point	23.8	
	Point	23.7	
Vac	Point	23.7	
Vac	Point	23.5	
Vac	Point	23.4	
Vac	Point	23.3	
Vac	Point	23.1	
Vac	Point	22.9	
Vac	Point	20.8	
Turbine	Point	20.8	
Turbine	Point	19.1	
001 - 12 Silenced Sonny - Lined Tunnel-Roof 01	Area	3.8	
001 - 12 Silenced Sonny - Lined Tunnel-Facade 01	Area	3.7	
001 - 12 Silenced Sonny - Lined Tunnel-Facade 03	Area	-6.0	
001 - 12 Silenced Sonny - Lined Tunnel-Facade 02	Area	-10.6	
001 - 12 Silenced Sonny - Lined Tunnel-Facade 04	Area	-13.9	

Appendix C:

Equipment Reference Data

Enviromental Noise with Dryer OFF: 70 dba





THIRD ANGLE PROJECTION	*MACHINING TOLERANCES*	DRAWN LVerdecia	8/26/2011
BREAK ALL SHARP CORNERS. PART TO BE FREE OF BURRS.	FRACTION± 1/16"	APPROVED	8/1/2012
UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN INCHES	.XX DECIMAL ± 0.030	CATEGORY BLOWER	
MATERIAL	.XXX DECIMAL ± 0.005	DESCRIPTION BLOWER ASSEMBLY, ONE ARCH 45HP	
	ANGULARITY ± 2°	PART NUMBER BL1-45HP-1	
	FINISH 125	SHEET 2 OF 2	SIZE A

SONNY'S ENTERPRISES
THE CARWASH FACTORY

SCALE N.T.S.

Product Features

- Gain flexibility in complying with noise ordinances that limit the allowable noise levels in some zoned areas.
- Blower Inlet Silencer retrofits to an existing Sonny's blower to reduce noise level by up to 7 decibels at 50 feet (depending on site specific architecture and other variables).
- Available in three colors: **Blue (# 20018006), Black (# 20018005)** and **Red (# 20018008)**

Note: Hardware is not included. Order a self-tapping screw kit (# **10013134**) for each silencer.

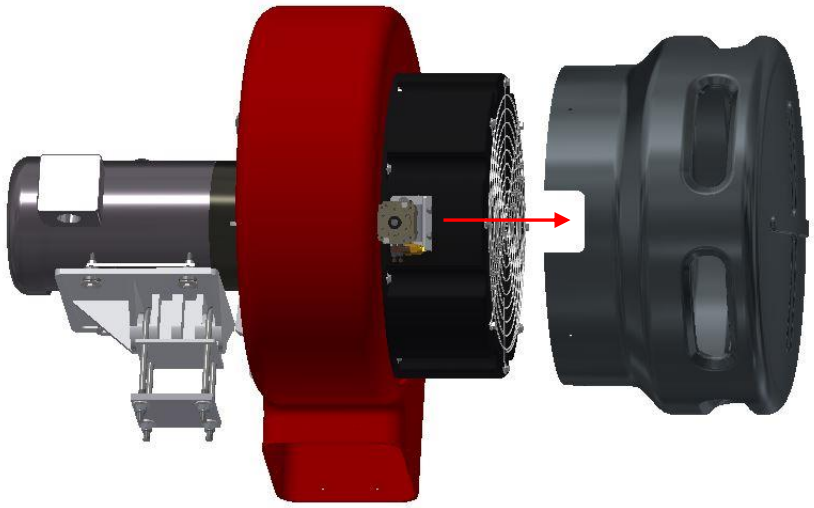
INSTALLATION

Tools
1. Safety Glasses
2. Cordless Drill
3. Drive Socket Set
4. 8' Ladder

Consumables
None

Work Force
Two (2) persons

Time (assuming no problems)
15 - 30 minutes



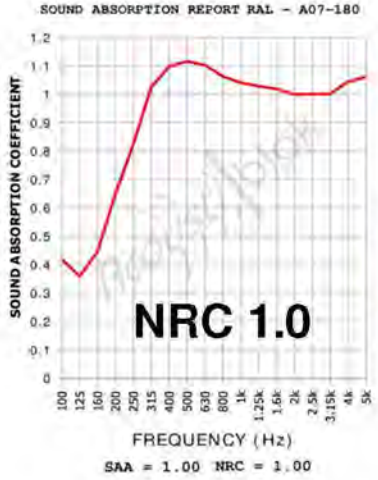
Caution: You must shut off all power to the conveyor and lock out the Motor Control Center before starting this install.

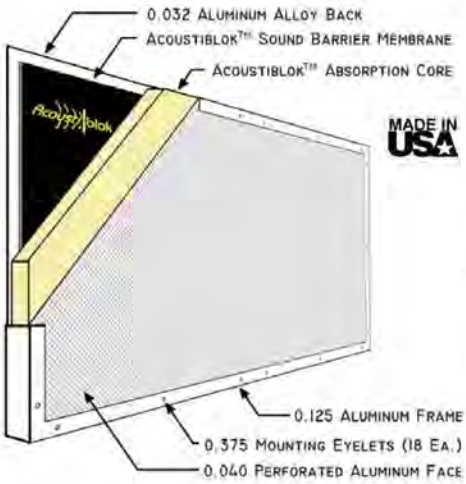
1. Shut off all power to the conveyor, blowers and lock out the Motor Control Center.
2. Insert the silencer over the venturi. For the gator silencer option, align notches to the gator actuator bracket (as pictured above).
3. Using the existing holes on the Silencer housing, affix the silencer to the gator housing using (8) of the provided self-tapping screws **(# 10013134**).
4. Avoid over-torqueing the self-tapping screws to prevent stripping the plastic housing.

Appendix I

North American Office
Acoustiblok, Inc.
6900 Interbay Boulevard
Tampa, FL 33616 USA
Phone: 813-980-1400
Fax: 813-549-2653
www.acoustiblok.com
sales@acoustiblok.com

Industrial Model All Weather Sound Panel™ (Pat. Pend)
Technical Data





Acoustiblok All Weather Sound Panels™ achieve high STC and NRC ratings. They have been specifically designed to withstand outdoor exposure in full sunlight, extreme weather conditions, and harsh industrial environments. (NRC of 1.0 is the highest sound absorption rating possible)

All Weather Sound Panels include an internal layer of U.L. classified Acoustiblok sound isolation material plus a specifically engineered 2" thick weather proof sound absorbing material.

Specifications:		
NRC (Noise Reduction Coefficient):	1.00 *	Gross dimensions: up to 48" x 120"x 2.423", ± 0.125" custom sizes available on special order.
STC (Sound Transmission Class):	29 *	Frame construction: 0.125" welded corrosion resistant 6063-T5 aluminum, mill finish, eyelets: 0.375" (18 ea.)
Weight: (8' panel)	104 lbs	Front face: 0.040 corrosion resistant 5052-H32 aluminum alloy, 3/32" round holes staggered on 5/32" centers.
UL Std 723 fire resistance: Flame spread 0, smoke developed 0.		Back face: 0.032 corrosion resistant 5052-H32 aluminum alloy, mill finish.
UV tolerant, animal resistant, washable, does not support mold growth.		

* Independent Testing by accredited NVLAP testing facility in compliance with ASTM E90, E 413, and other applicable industry standards.

Subject to change without notice, contact Acoustiblok for details.

Product Data Sheet

Product Name

QuietFiber® Hydrophobic Noise Absorption Material – QF2

For Manufacturer Info:

Contact:
Acoustiblok, Inc.
6900 Interbay Boulevard
Tampa, FL 33616
Call - (813) 980-1400
Fax - (813)849-6347
Email - sales@acoustiblok.com
www.acoustiblok.com

Product Description

Basic Use

QuietFiber hydrophobic noise absorption material is an easily installed solution to many noise problems. It is engineered specifically for maximum noise absorption and is used extensively for industrial and commercial applications and is now being successfully introduced into non-industrial environments where reverberant sound and echo is a problem.

QuietFiber® QF2

QuietFiber is rated at the highest noise reduction level – NRC 1.00. Areas of high noise levels including sound reverberation can be resolved easily and economically by introducing QuietFiber into as much of the area as possible. The amount of noise reduction in highly reflective rooms will be directly relative to how much of the QuietFiber material can be installed into the room.

Unlike other fibrous materials which do not have the same high NRC ratings, QuietFiber is hydrophobic, meaning it will not absorb nor combine with water. Marine noise reduction applications are endless.

QuietFiber® QF2

- Highest noise absorption rating of NRC 1.00
- Non Silica
- Virtually fireproof – Class A fire rating
  - 0 Smoke + 0 Flame Development
- Hydrophobic – will not combine with water
- Will not support mold or mildew growth
- Available in plain, black or white face
- Full outdoor weather and U.V. tolerant
- Significant sound benefit v. fiberglass
- Install on top of acoustical ceiling tiles
- High temperature capable
- Comprised of up to 90% recycled material
- 100% recyclable

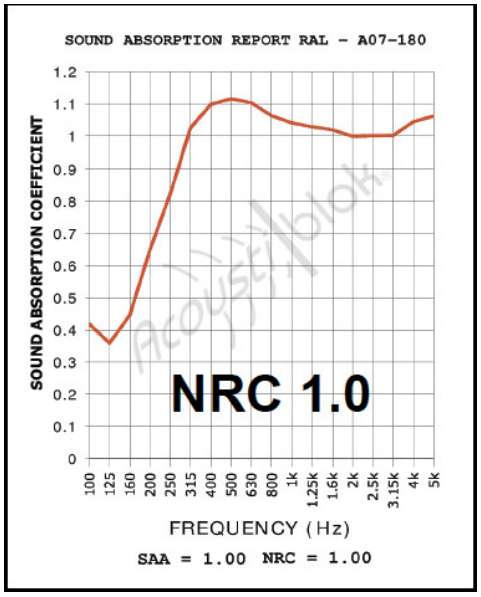
Product Name

QuietFiber® Hydrophobic Noise Absorption Material – QF2

NRC 1.0 Rated	125hz	250hz	500hz	1000hz	2000hz	4000hz
	0.36	0.79	1.15	1.04	1.01	1.04

Technical Data:

- ASTM C 423 – NRC 1.00
- ASTM E 84 – Class 1, 0 Flame 0 Smoke
- ASTM C 518 – R 4.2 per inch
- ASTM C 518 – 0.24 @ 75°F (24°C)



Standards Compliance:

- ASTM C 665 Non-Corrosive Type I
- ASTM C 612 1A, 1B, II, III
- ASTM E 136 Rated Non-combustible per NFPA Standard 220
- ASTM C 1104 Absorption less than 1% by volume
- ASTM C 356 Linear shrinkage <2% @ 1200°F (650°C)

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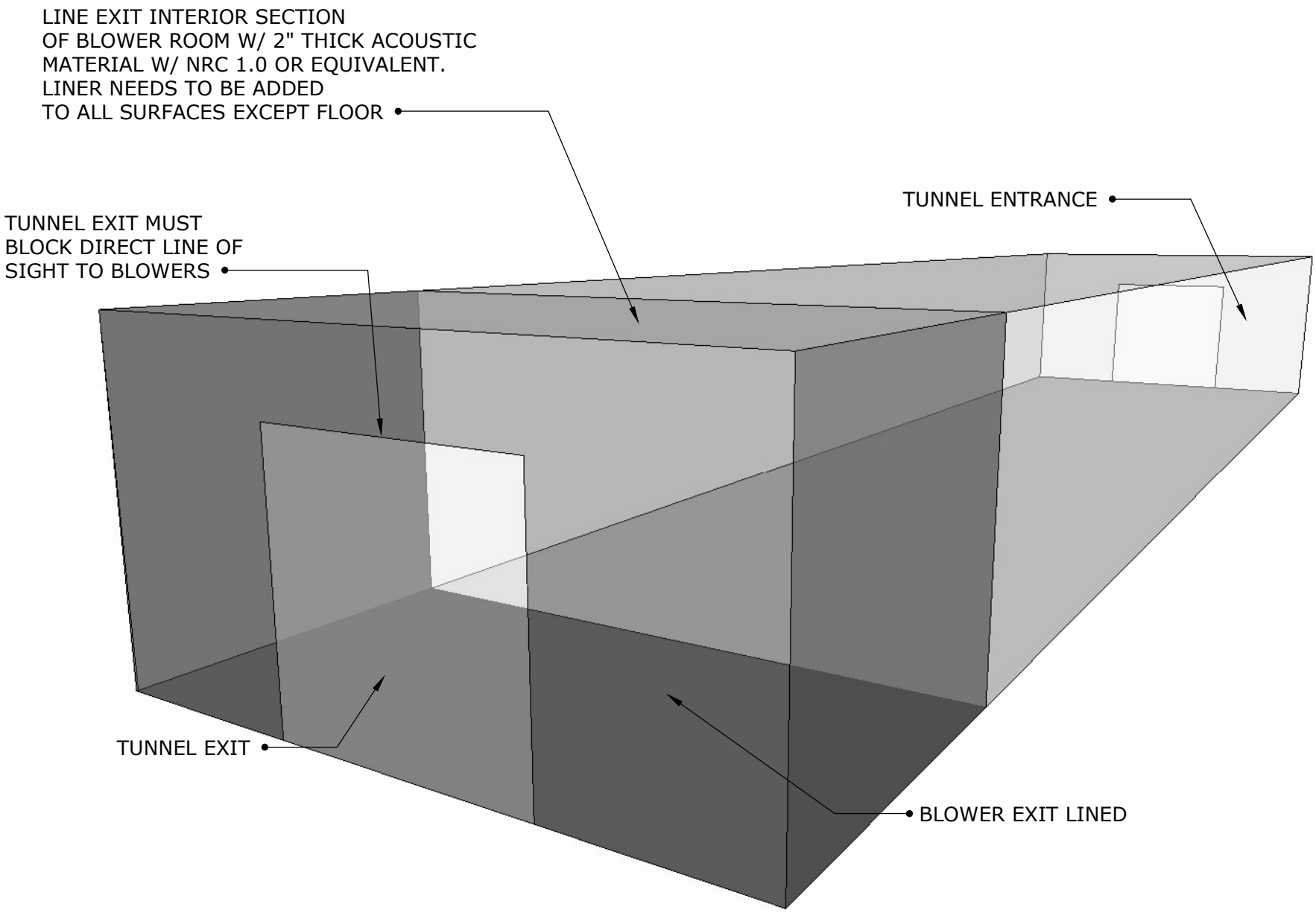
Tampa, Florida USA 33616
Telephone: (813)980-1440
www.Acoustiblok.com
sales@acoustiblok.com



ACOUSTIC TREATMENTS TO TUNNEL INTERIOR

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CA Office
1197 Los Angeles Ave, Ste C-256
Simi Valley, CA 93065
p. (805) 426-4477

Project: SuperStar Car Wash Chula Vista
Site Location: 1555 W Warner Rd, Gilbert, AZ 85233
Date: 4/5/2018
Field Tech/Engineer: Robert Pearson
Source/System: Vacutec System

Location: Vac Bay 1
Sound Meter: NTi XL2 **SN:** A2A-05967-E0
Settings: A-weighted, slow, 1-sec, 10-sec duration
Meteorological Cond.: 80 degrees F, 2 mph wind

Site Observations:
Clear sky, measurements were performed within 1.5ft of source. Measurements were performed while the vacuum was positiioned at three (3) different positions. Holstered, unholstered and inside a car. This data is utilized for acoustic modeling purposes and represents an average sound level at a vacuum station.

Table 1: Summary Measurement Data

Source	System	Overall dB(A)	3rd Octave Band Data (dBA)																														
			20	25	31.5	40	50	63	80	100	125	160	200	250	315	400	500	630	800	1K	1.25K	1.6K	2K	2.5K	3.15K	4K	5K	6.3K	8K	10K	12.5K	16K	20K
Vacutech (Holstered)	Vacuum	63.3	9	17	22	29	31	35	40	41	44	43	46	48	47	49	51	51	51	52	53	52	52	50	52	53	50	47	47	48	45	39	30
Vacutech (Unholstered)	Vacuum	80.7	6	19	22	28	34	37	40	43	47	46	48	48	48	49	54	55	58	58	62	65	68	70	74	75	73	69	67	65	63	60	55
Vacutech (Inside Car)	Vacuum	69.6	16	28	31	38	42	45	49	51	52	55	60	61	57	55	59	53	55	56	54	57	57	57	57	57	55	54	51	48	46	42	36
Average Level*	Vacuum	76.3	13	24	28	34	38	41	45	47	49	51	56	57	53	52	56	54	56	56	59	61	64	66	69	70	68	64	62	60	58	55	50

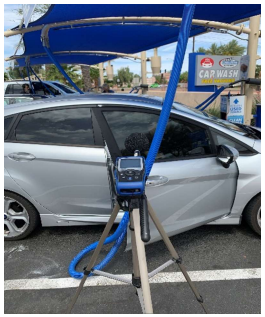
* Refers to the logarithmic average of all measurements. This measurement represents an average of the multiple vacuum positions.

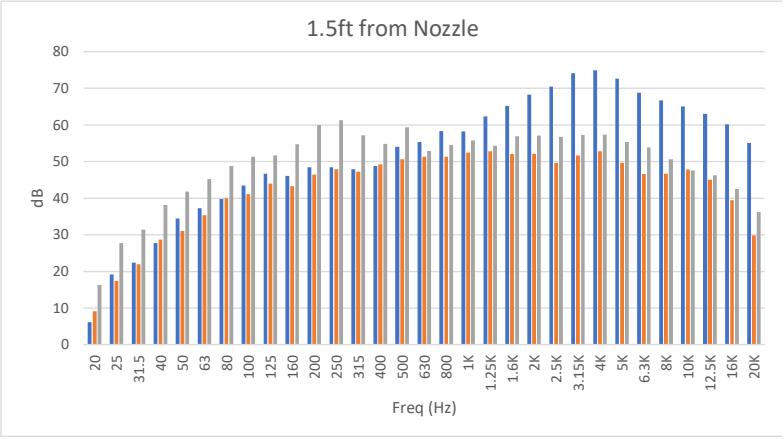
Figure 1: Example Measurement Position

Figure 1: Holstered

Figure 2: Unholstered

Figure 3: Inside Car





SOUND LEVEL METER READINGS

MODEL: FT-DD-T340HP4 (40hp VACSTAR TURBINE VACUUM PRODUCER)

READING ONE: 43 DB-A, 3 FEET FROM TURBINE @ 45° ANGLE
AND NO BACKGROUND NOISE OR OUTSIDE INTERFERENCE.

READING TWO: 36 DB-A, 10 FEET FROM TURBINE @ 45° ANGLE
AND NO BACKGROUND NOISE OR OUTSIDE INTERFERENCE.

READING THREE: 24 DB-A, 20 FEET FROM TURBINE @ 45° ANGLE
AND NO BACKGROUND NOISE OR OUTSIDE INTERFERENCE.

READING FOUR: 12 DB-A, 30 FEET FROM TURBINE @ 45° ANGLE
AND NO BACKGROUND NOISE OR OUTSIDE INTERFERENCE.

NOTE: THESE READINGS WERE TAKEN OUTSIDE OF 8'x10'x8' CINDER BLOCK ENCLOSURE WITH CONCRETE SLAB AND WOOD JOIST ROOF.

SOUND LEVEL METER USED:

SIMPSON MODEL #40003 – MSHA APPROVED.
MEETS OSHA & WALSH-HEALY REQUIREMENTS FOR NOISE CONTROL.
CONFORMS TO ANSI S1.4-1983, IEC 651 SPECS FOR METER TYPE.

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