Appendix J2 Traffic Noise

Appendices

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The Ontario Regional Sports Complex EIR

Traffic Noise

Technical Report

HMMH Project Number 23-0251A
March 2024

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1. Summary

This technical appendix includes the traffic-noise analysis for The Ontario Regional Sports Complex project (ORSC). The noise analysis was prepared in support of the Environmental Impact Report (EIR), pursuant to the requirements of the California Environmental Quality Act (CEQA). The technical appendix includes the analysis of traffic noise from off-site roadways adjacent to the ORSC.

To predict traffic-noise levels, a detailed geometric model of the noise study area was initially developed using Geographic Information System (GIS) software and the proposed ORSC site plan. The evaluation of traffic noise levels includes a noise monitoring survey and traffic noise predictions using the latest version of the SoundPLAN noise model which implements the latest version of the Federal Highway Administration (FHWA) Traffic Noise Model (TNM Version 2.5).

Traffic noise for the ORSC was evaluated as a Community Noise Equivelent Level (CNEL). Under 2050 Build conditions, a total of two noise-sensitive receptors are predicted to experience traffic-noise levels that exceed the transportation noise thresholds of significance under 2050 Build conditions. Predicted traffic-noise levels are predicted to range between 36 and 73 dBA in the 2023 Existing conditions and range between 39 and 76 in the 2050 Build scenario.

2. Environmental Setting

2.1 Noise

2.1.1 Noise Descriptors

Noise levels are presented on a logarithmic scale to account for the large pressure response range of the human ear. This logarithmic scale is expressed in units of decibels (dB). A decibel is defined as the ratio between a measured value and a reference value usually corresponding to the lower threshold of human hearing. The lower threshold of human hearing is defined as 20 micropascals. Typically, a noise analysis examines 11 octave (or 33 1/3 octave) bands ranging from 16 hertz (low) to 16,000 hertz (high). This octave band encompasses the human audible frequency range. The human ear does not perceive every frequency with equal loudness; therefore, spectrally varying sounds are often adjusted with a weighting filter. The A weighted filter is applied to compensate for the frequency response of the human auditory system, known as a dBA. The A-weighted sound level is commonly used when measuring environmental noise and is widely accepted by acousticians as a proper unit for describing environmental noise.

An inherent property of the logarithmic dB scale is that the sound pressure levels of two separate sources are not directly additive. For example, if a sound of 50 dBA is added to another sound of 50 dBA in the proximity, the result is a 3 dB increase, which is a total of 53 dBA and not an arithmetic doubling to 100 dBA. The human ear perceives changes in sound pressure level relative to changes in "loudness." Scientific research demonstrates the following general relationships between sound level and human perception for two sound levels with the same or very similar frequency characteristics:

- One dBA is the practical limit of accuracy for sound measurement systems and corresponds to an approximate 10 percent variation in the sound pressure level. A 1-dBA increase or decrease is a non-perceptible change in sound.
- A 3-dBA increase or decrease is a doubling (or halving) of acoustic pressure level, and it corresponds to the threshold of change in loudness perceptible in a laboratory environment. In practice, the average person is not able to distinguish a 3-dBA difference in environmental sound outdoors.
- A 5-dBA increase or decrease is described as a perceptible change in sound level and is a discernible change in an outdoor environment.
- A 10-dBA increase or decrease is a tenfold increase or decrease in acoustic pressure level but is perceived as a doubling or halving in loudness (e.g., the average person would judge a 10-dBA change in sound level to be twice or half as loud).

Figure 1 depicts the estimations of common noise sources and outdoor acoustic environments and provides a comparison of relative loudness for each of these sources. Noise levels can be measured, modeled, and presented in various formats. The noise metrics that were employed in this analysis have the following definitions:

- Community noise equivalent level (CNEL): The energy-average of the A-weighted sound levels occurring during a 24-hour period, with 5 dB added to the sound levels occurring during evening hours (7:00 p.m. to 10:00 p.m.) and 10 dB added to noise levels occurring during nighttime hours (10:00 p.m. to 7:00 a.m.).

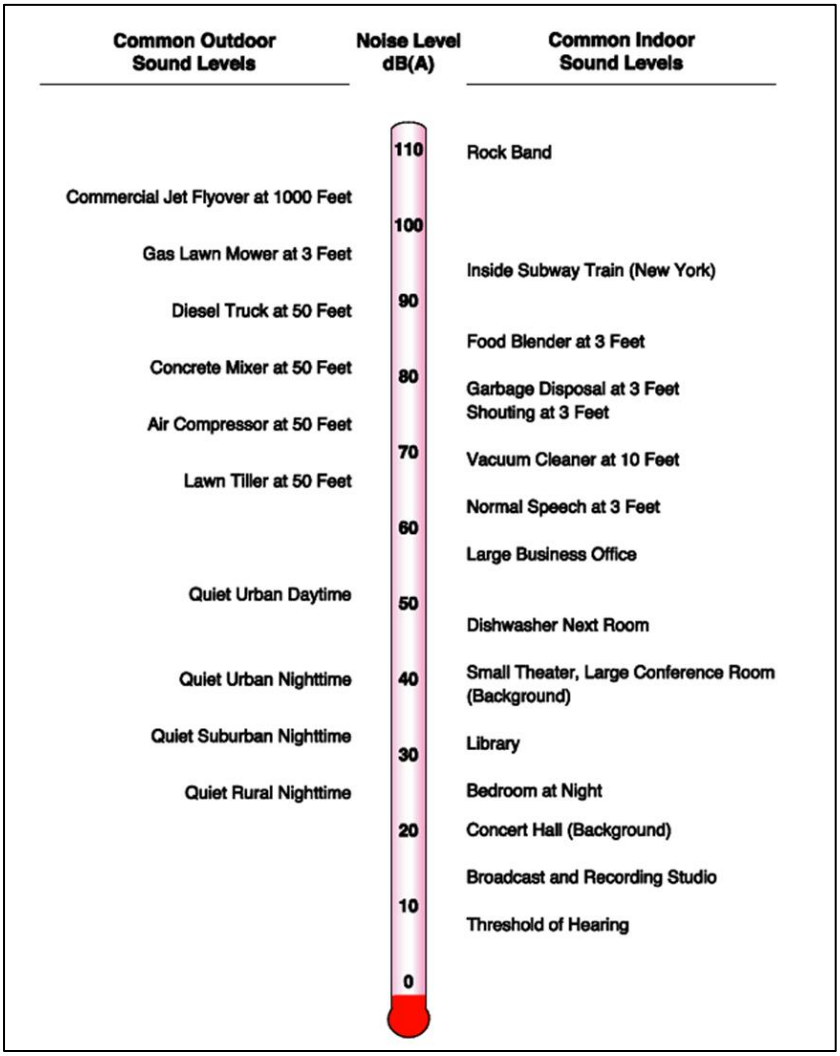

Figure 1. Sound Levels

Source: HMMH 2023

2.1.2 Noise Attenuation

Noise emitted by line sources, in this case roadways, typically dissipates at a rate of approximately 3 dB for each doubling of distance (between the noise source and the receptor). As an example, a residential neighborhood abutting a freeway with rows of homes with outdoor use areas (independent of background ambient noise levels) may experience noise levels of approximately 66 dBA L_{eq} at 50 feet from the noise source. Based on a sound dissipation rate of 3 dB per doubling of distance, a sound level of 66 dBA at 50 feet from the noise source would be approximately 63 dBA at a distance of 100 feet, 60 dBA at a distance of 200 feet, and so on. That sound drop-off rate does not take into account any intervening shielding (including landscaping or trees) or barriers, such as structures or hills between the noise source and noise receptor. A barrier that breaks the line-of-sight between a source and a receiver will typically result in at least 5 dB of noise reduction. A higher barrier may provide as much as 20 dB of noise reduction.

2.1.3 Effects of Noise on Humans

The effects of noise on humans can be grouped into three general categories (USEPA 1979):

- Subjective effects of annoyance, nuisance, dissatisfaction;
- Physiological effects such as starting hearing loss; and,
- Interference with activities such as speech, sleep, and learning.

With respect to annoyance, human response to sound is highly individualized. Many factors influence the response to noise including the character of the noise, the variability of the sound level, the presence of tones or impulses, and the time of day of the occurrence. Additionally, non-acoustical factors, such as individual opinion of the noise source, the ability to adapt to the noise, the attitude towards the source and those associated with it, and the predictability of the noise, all influence the response to noise. These factors result in the reaction to noise being highly subjective, with the perceived effect of a particular noise varying widely among individuals in a community.

Noise-induced hearing loss usually takes years to develop. Hearing loss is one of the most obvious and easily quantifiable effects of excessive exposure to noise. While the loss may be temporary at first, it can become permanent after continued exposure. When combined with hearing loss associated with aging, the amount of hearing loss directly due to the environment is difficult to quantify. Although the major cause of noise-induced hearing loss is occupational, non-occupational sources may also be a factor.

Noise can mask important sounds and disrupt communication between individuals in a variety of settings. This process can cause anything from a slight irritation to a serious safety hazard, depending on the circumstance. Noise can disrupt face-to-face communication and telephone communication, and the enjoyment of music and television in the home. Interference with communication has proved to be one of the most important components of noise-related annoyance.

Relative to noise being a source of annoyance, including sleep disturbance, and having health impacts, there are various uncertainties and debate within the scientific community regarding the exact relationship between noise and these types of impacts, particularly as related to assessing whether there would be a significant impact under CEQA.

3. Methodology

This section discusses the noise prediction model, monitoring of existing noise levels, and traffic data used as input to the noise prediction model.

3.1 Traffic Noise Prediction Model

Traffic noise levels for the existing and future no-build and build case were computed using the latest version of the SoundPLAN noise model which implements TNM Version 2.5 to compute traffic noise. Modeling inputs include a CAD file of the proposed site layout, detailed digital terrain with elevation obtained from the U.S. Geological Survey (USGS) 3D elevation program[1] as well as building footprints, which were obtained from Microsoft Building Footprints, accessed through ArcGIS Online.[2] Existing building heights were estimated based on Microsoft Streetside imagery™, accessed via Bing maps. Aerial photography was obtained from ESRI as well as the U.S. Department of Agriculture's (USDA's) National Agriculture Imagery Program (NAIP).[3].

All data digitized in GIS was imported into SoundPLAN GmbH, and a digital ground model was generated to assign base elevations to all modeled features and account for attenuation effects due to changes in terrain. Ground type on- and off-site was assumed to be "compacted field and gravel" (compacted lawns, park areas). Upon import into SoundPLAN, traffic speeds and hourly traffic volumes, including percentage of medium and heavy trucks, were applied to project roadways.

To fully characterize existing and future noise levels at all noise-sensitive land uses in the study area, noise-sensitive receptor locations within 1,000 feet of the proposed ORSC site were added to the model. Information on noise-sensitive residential land use in the study area includes the number of dwelling units, identified from existing mapping and publicly available parcel data.

3.2 Monitoring of Existing Noise Levels

As discussed in detail below in Section 5, the methods used during the noise monitoring survey were consistent with FHWA and California Department of Transportation (Caltrans) guidance and policies. The objectives of the noise monitoring survey were to document existing ambient noise levels in noise-sensitive locations adjacent to the off-site roadway network and to provide a means for validating the traffic-noise prediction model. Long-term noise measurements were conducted using Bruel and Kjaer 2245 (ANSI Type I, "Precision") integrating sound level meters. The noise measurement instruments are calibrated on an annual basis by an independent certification laboratory, following methods and procedures traceable to the National Institute of Standards and Technology. The equipment was also calibrated in the field using a handheld acoustic calibrator at the beginning and end of each measurement period. **Attachment A** includes details of the noise monitoring survey, including site photos and equipment calibration certificates.

3.3 Traffic Data for Noise Prediction

The traffic data were provided for the 2023 Existing and 2050 No-Build and Build conditions as ADT for passenger vehicles and heavy-duty vehicles during the daytime, evening and nighttime periods. The ADTs were evenly distributed across each time period to determine a 24-hour distribution of vehicles. **Attachment B** provides the traffic data for the roadways used in the traffic noise model for this project.

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[1] https://apps.nationalmap.gov/downloader

[2] The development to the east of the project site (Countryside) was manually digitized using aerial photography, since building footprints were not available.

[3] https://datagateway.nrcs.usda.gov/GDGHome_DirectDownLoad.aspx

4. Regulatory Framework

Several federal, state, and local regulations, ordinances, and guidelines have been established to control noise and vibration and minimize effects on humans and are discussed below. The Noise Control Act of 1972 (42 United States Code Section 4901) was the first comprehensive statement of national noise policy. It declared that "it is the policy of the United States to promote an environment for all Americans free from noise that jeopardizes their health or welfare" (GSA 1972). Significance criteria for traffic noise impacts were developed based on worst-case traffic noise CNEL based upon City of Ontario Plan regulations and guidelines.

4.1 State

California Environmental Quality Act (CEQA)

According to Appendix G of the CEQA Guidelines, a proposed action would have a significant impact on noise and vibration if:

- The project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.
- The project result in generation of excessive groundborne vibration or groundborne noise levels?
- For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

4.2 Local

The Ontario Plan

Section 5.13.2 of The Ontario Plan (TOP) 2050 addresses transportation noise and includes thresholds of significance as it relates to traffic noise. A project will normally have a significant effect on the environment related to traffic noise if it would substantially increase the ambient noise levels for adjoining areas. Most people can detect changes in sound levels of approximately 3 dBA under normal, quiet conditions, and changes of 1 to 3 dBA under quiet, controlled conditions. Changes of less than 1 dBA are usually indiscernible. A change of 5 dBA is readily discernible to most people in an outdoor environment. Based on this, the following thresholds of significance, similar to those recommended by the Federal Aviation Administration, are used to assess traffic noise impacts at sensitive receptor locations. A significant impact would occur if the traffic noise increase would exceed:

- 1.5 dBA for ambient noise environments of 65 dBA CNEL and higher.
- 3 dBA for ambient noise environments of 60 to 64 CNEL.
- 5 dBA for ambient noise environments of less than 60 dBA CNEL.

4.3 Thresholds of Significance

For the purposes of the EIR for the ORSC, traffic noise impact will be determined using criteria found within The Ontario Plan (TOP) 2050. As mentioned in Section 4.2, traffic noise impact will be considered significant if predicted design-year noise levels at receptors exceed the applicable thresholds.

5. Existing Environment

A noise monitoring survey was conducted within the Project study area, consistent with FHWA and Caltrans recommended procedures. The objectives of the monitoring program were to document existing ambient noise levels in noise-sensitive locations around the proposed ORSC site.

Noise monitoring was conducted at two long-term (24-hours) sites in October 2023. Measurement sites were generally located in areas that are representative of noise-sensitive land use exposed to noise from traffic along roadways adjacent to the proposed ORSC site. The long-term measurements characterized existing noise levels in the study area during a typical day. **Figure 2** shows the locations of the noise measurement sites within the Project study area.

The long-term data collection procedure involved measurement of one-second equivalent sound levels (Leq(s)) over a period of 24-hours. Continuous logging of events was conducted during the monitoring, so that intervals that included extraneous events could be excluded during the analysis. The measured noise levels appear in **Table 1** and **Table 2** as equivalent sound levels (Leq). As described above, the Leq is a sound-energy average of the fluctuating sound level (in A-weighted decibels, dBA) measured over a specified time. **Table 1** and **Table 2** provide a description of the measurement location, as well as the start time and the duration of the measurement.

Table 1. Summary of Long-term Noise Measurement Results – LT-01 (Canal Walking Path)

Time Period	Measured Sound Levels (dBA)				
	Type	L_{max}	L_{10}	L_{eq}	L_{90}
Daytime (7 AM-7PM)	Hourly	62 to 80	47 to 57	47 to 56	40 to 55
	Overall	80	56	52	43
Evening (7 PM-10 PM)	Hourly	62 to 67	51 to 53	50 to 51	48 to 49
	Overall	68	52	51	48
Nighttime (10 PM-7 AM)	Hourly	61 to 70	52 to 59	50 to 57	45 to 54
	Overall	70	55	53	48
Total (24 hours)	Hourly	61 to 80	47 to 59	47 to 57	40 to 55
	Overall	80	55	52	45
CNEL	59				

Source: HMMH, 2023.

Table 2. Summary of Long-term Noise Measurement Results – LT-02 (South Whispering Lakes Lane)

Time Period	Measured Sound Levels (dBA)				
	Type	L_{max}	L_{10}	L_{eq}	L_{90}
Daytime (7 AM-7PM)	Hourly	64 to 80	50 to 59	48 to 57	41 to 53
	Overall	80	56	53	44
Evening (7 PM-10 PM)	Hourly	63 to 68	51 to 55	50 to 53	48 to 49
	Overall	68	53	52	48
Nighttime (10 PM-7 AM)	Hourly	57 to 69	49 to 57	47 to 55	43 to 52
	Overall	69	54	51	45
Total (24 hours)	Hourly	57 to 80	49 to 59	47 to 57	41 to 53
	Overall	80	55	52	45
CNEL	58				

Source: HMMH, 2023.

6. Traffic Noise Analysis Results

This section summarizes the evaluation of noise levels due to traffic along the off-site roadways surrounding the proposed ORSC site. **Figure 2** provides an overview of noise modeling receiver locations. **Table 3** provides the CNEL as it relates to traffic-noise for 2023 Existing and 2050 No-Build and Build conditions. **Table 3** also summarizes the change in CNEL between 2023 Existing and 2050 Build scenarios.

Under 2050 Build conditions, a total of two noise-sensitive receptors, located in Receptor Group 1 and Receptor Group 3, are predicted to experience traffic-noise levels that exceed the allowable increases in ambient noise levels under 2050 Build conditions. Increases in traffic-noise levels are predicted to range between 0 and 6 decibels, with the greatest increase occurring in Receptor Group 1. **Attachment C** lists the computed sound levels at all modeled receptors included in the traffic-noise assessment.

Table 3. Summary of Traffic-Noise Levels by Receptor Group

Receptor Group	Land Use Description	Range of Predicted Traffic-Noise Levels, CNEL (dBA)			Changes in Traffic-Noise Levels (2023 Existing to 2050 Build)	Number of Impacted Receptors
		2023 Existing	2050 No-Build	2050 Build		
1	Residential use on the north and south side of East Riverside Drive, between Willow Drive and South Vineyard Avenue	46-72	49-76	49-76	1.2 - 5.6	1
2	Residential and institutional use (Sunrise Childcare Center) on the north side of East Riverside Drive, between Vineyard Avenue and South Whispering Lakes Lane	40-72	43-75	44-76	0.7 - 5	0
3	Recreational use associated with the Whispering Lake Golf Course on the north side of East Riverside Drive, between South Whispering Lakes Lane and Cucamonga Channel	47-73	50-75	50-76	1.7 - 5.3	1
4	Residential and recreational use (Westwind Community Center) on the north side of East Riverside Drive, between Cucamonga Channel and South Colonial Avenue	48-69	51-73	51-73	2.4 – 5.0	0
5	Residential and recreational use (Cucamonga Channel Walking Trail) bounded by the Cucamonga Channell to the west, East Riverside Drive to the north, South Colonial Avenue to the east, and Chino Avenue to the south	36-67	38-70	39-71	0.1 - 4.6	0
6	Residential use on the south side of Chino Avenue, between Vineyard Avenue and Ontario Avenue	45-57	48-60	49-61	2.3 - 4.6	0
TOTAL						2

Source: HMMH, 2024

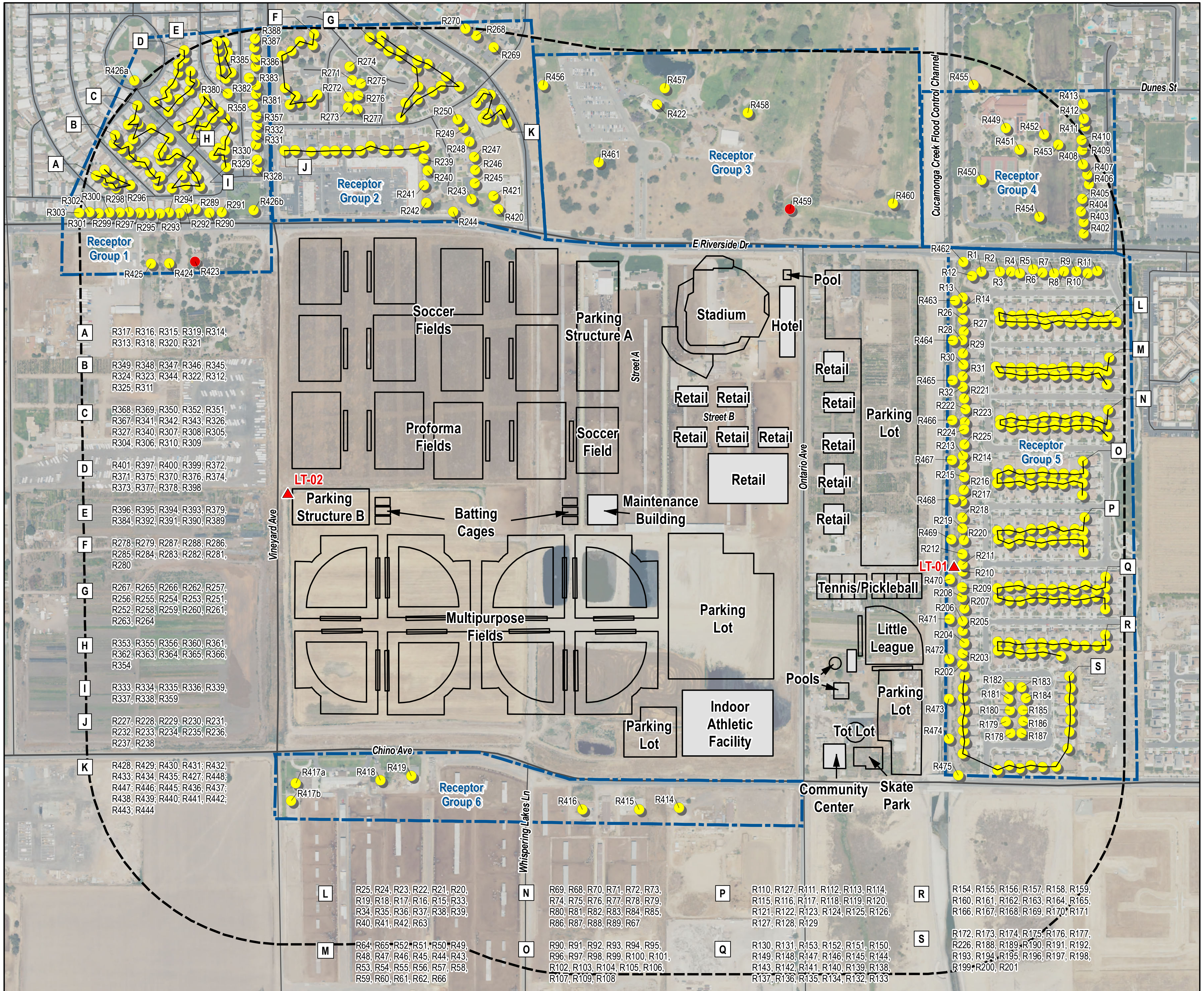

Figure 2
Predicted Traffic-Noise Levels
2050 Build Conditions
CNEL (dBA)

Ontario Regional Sports Complex EIR
Ontario, California

Receptor Location, Number, and Impact Status

- Impact
- No Impact

Top Floor Noise Prediction Result
Bottom Floor Noise Prediction Result

Note: Grouped Receptor Labels are in order of Leader Occurrence.

- Long-term Noise Monitoring Location
- Sports Complex Feature
- Sports Complex Building
- Receptor Group
- Study Area

0 500 1,000 Feet

hmmh

7. Mitigation

In compliance with CEQA, “each public agency shall mitigate or avoid the significant effects on the environment of project it carries out or approves whenever it is feasible to do so” (Public Resources Code, § 21002.1(b)). The term “feasible” is defined in CEQA to mean “capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, and technological factors” (Public Resources Code, § 21061.1). A number of measures were considered for mitigating or avoiding the traffic noise impacts, as discussed below.

Special Roadway Paving

Notable reductions in tire noise have been achieved via the implementation of special paving materials, such as rubberized asphalt or open-grade asphalt concrete overlays. For example, Sacramento County conducted a study of pavement noise along the Alta Arden Expressway (County of Sacramento 1999) and found improvements in an average of 4 dB compared to conventional asphalt overlay. While special roadway paving has the potential to reduce traffic noise levels to below the impact threshold for the two impacted receptors, implementation of this mitigation strategy is costly. Therefore, considering the approximate costs versus benefits, this mitigation measure is inadequate for reducing the noise impacts to less than significant levels.

Sound Barrier Walls

Some segments may potentially benefit from the installation of sound barrier walls adjacent to the roadways that are predicted to have excessive sound levels due to the project. However, receptors along East Riverside Drive have direct access (via driveways) to the associated roadway that must be maintained. Therefore, barrier walls would prevent access to their individual properties and would be infeasible. Further, impacts to areas located on private property are outside of the control of future Specific Plan developers, so there would be limited admittance (onto these properties) to construct such walls (while neglecting the high cost of such wall systems). For the reasons listed, this approach would not be able to reduce project noise impacts at all receptor areas to levels that are below significance. Therefore, noise increases along these segments would be significant and unavoidable.

Sound Insulation of Off-Site Residences

The highest roadway noise levels are predicted to reach up to 76 dBA CNEL. Exterior-to-interior noise reductions depend on the materials utilized, the design of the homes, and their conditions. To determine what upgrades would be needed, a noise study would be required for each house to measure exterior-to-interior noise reduction. Sound insulation may require upgraded windows, upgraded doors, and a means of mechanical ventilation to allow for a “windows closed” condition. There are no funding mechanisms and procedures that would guarantee that the implementation of sound insulation features at each affected home would offset the increase in traffic noise to interior areas and ensure that the 45 dBA CNEL would be achieved. Therefore, this method was dropped from further consideration.

As identified above, traffic generated by the Sports Complex would result in a substantial increase in noise levels in the vicinity of noise-sensitive land uses. There are no feasible mitigation measures that would reduce traffic generated by vehicles associated with the Sports Complex. Therefore, traffic noise impacts would be significant and unavoidable.

8. References

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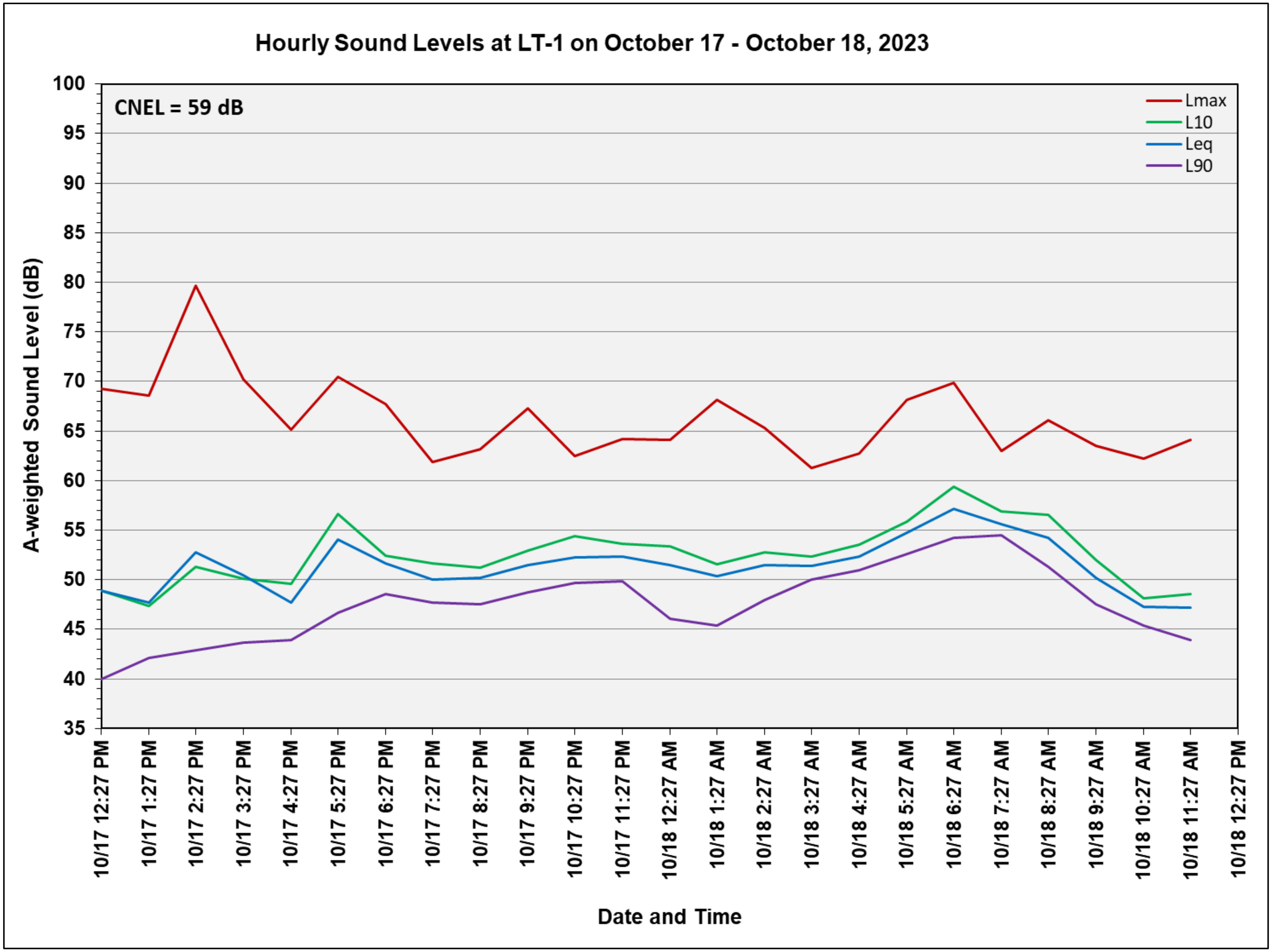
ATTACHMENT A. NOISE MONITORING SURVEY DETAILS

Noise Measurement Site, LT-1

Noise Measurement Site, LT-2


Hourly Sound Levels at LT-1 on October 17 - October 18, 2023
CNEL = 59 dB
Lmax
L10
Leq
L90
A-weighted Sound Level (dB)
100
95
90
85
80
75
70
65
60
55
50
45
40
35
10/17 12:27 PM
10/17 1:27 PM
10/17 2:27 PM
10/17 3:27 PM
10/17 4:27 PM
10/17 5:27 PM
10/17 6:27 PM
10/17 7:27 PM
10/17 8:27 PM
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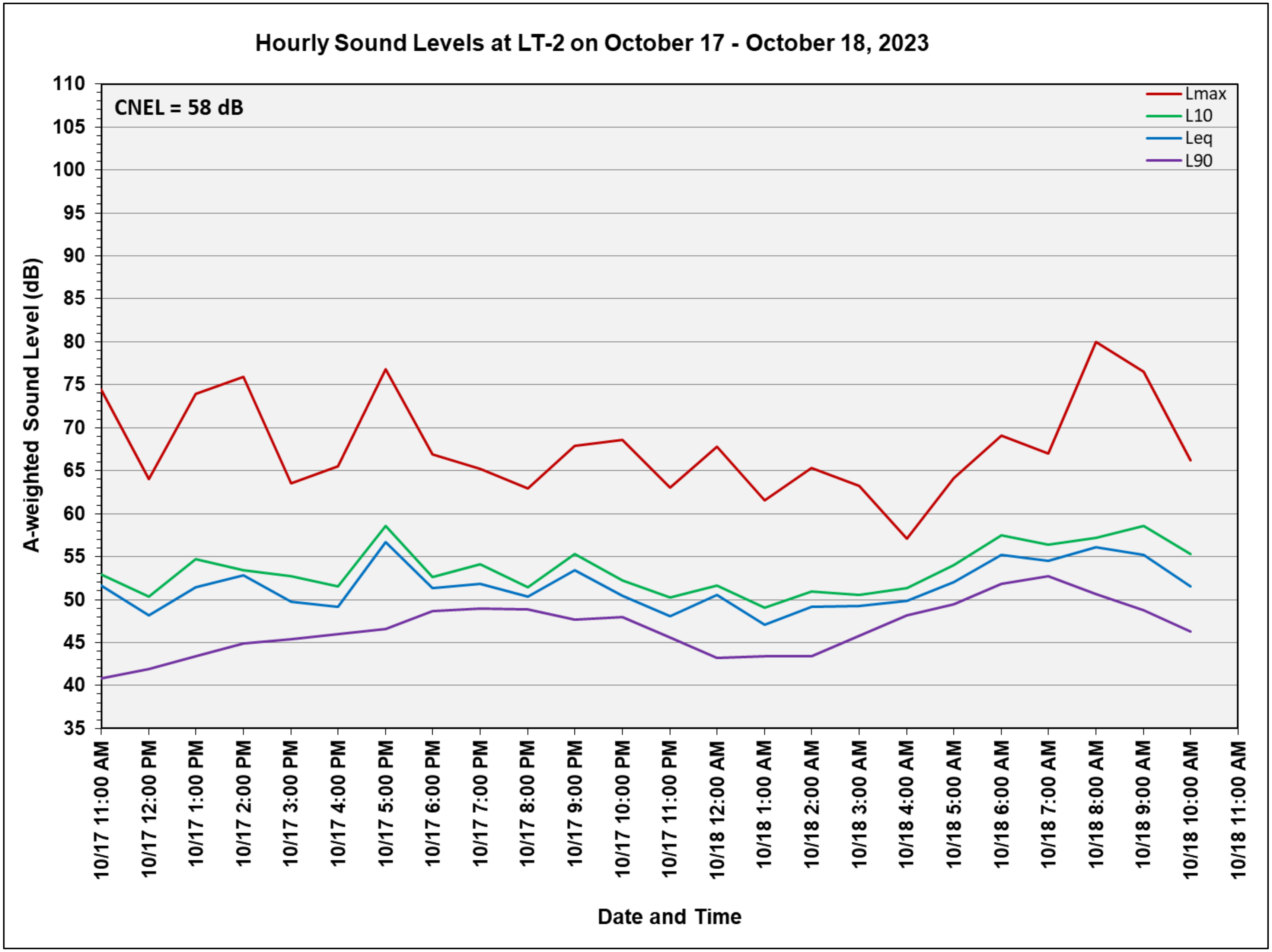
10/18 12:27 PM
Date and Time


Hourly Sound Levels at LT-2 on October 17 - October 18, 2023
CNEL = 58 dB
Lmax
L10
Leq
L90
A-weighted Sound Level (dB)
110
105
100
95
90
85
80
75
70
65
60
55
50
45
40
35
10/17 11:00 AM
10/17 12:00 PM
10/17 1:00 PM
10/17 2:00 PM
10/17 3:00 PM
10/17 4:00 PM
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10/18 9:00 AM
10/18 10:00 AM
10/18 11:00 AM
Date and Time

HBK
HOTTINGER BRÜEL & KJÆR

The Hottinger Bruel & Kjaer Calibration Laboratory
3079 Premiere Parkway Suite 120
Duluth, GA 30097
Telephone: 770/209-6907
Fax: 770/447-4033
Web site address: http://www.hbkworld.com

A2LA ACCREDITED Calibration Certificate Number 1568.01

CERTIFICATE OF CALIBRATION

Certificate No: CAS-624660-F1H5W8-803

CALIBRATION OF:

Sound Level Meter:	Brüel & Kjær	2245	Serial No: 2245-100486
Microphone:	Brüel & Kjær	4966	Serial No: 3236858
Supplied Calibrator:	Brüel & Kjær	4231	Serial No: 3024172
Software version:	BZ7301 Version 1.1.2.386		

CLIENT:

Harris Miller Miller & Hanson Inc.
700 District Avenue Suite 800
Burlington, MA 01803

CALIBRATION CONDITIONS:

Preconditioning: 4 hours at 23 ± 3 °C
Environment conditions: See actual values in Environmental Condition sections

SPECIFICATIONS:

This document certifies that the instrument as listed under "Model/Serial Number" has been calibrated and unless otherwise indicated under "Final Data", meets acceptance criteria as prescribed by the referenced Procedure. The reported expanded uncertainty is based on the standard uncertainty multiplied by a coverage factor $k = 2$ providing a level of confidence of approximately 95%. Statements of compliance, where applicable, are based on calibration results falling within specified criteria with no reduction by the uncertainty of the measurement. The calibration of the listed instrumentation, was accomplished using a test system which conforms with the requirements of ISO/IEC 17025, ANSI/NCSL Z540-1, and ISO 10012-1. For "as received" and/or "final" data, see the attached page(s). Items marked with one asterisk (*) are not covered by the scope of the current A2LA accreditation This Certificate and attached data pages shall not be reproduced, except in full, without the written approval of the Hottinger Brüel & Kjær Calibration Laboratory-Duluth, GA. Results relate only to the items tested. This instrument has been calibrated using Measurement Standards with values traceable to the National Institute of Standards and Technology, National Measurement Institutes or derived from natural physical constants.

PROCEDURE:

Hottinger Brüel & Kjær Model 3630 Sound Level Meter Calibration System Software 7763 Version 8.6 - DB: 8.60 Test Collection 2245-E, 4966 (BZ-7301).

RESULTS:

As Received Condition	As Received Data	Final Data
_X_ Received in good condition	_X_ Within acceptance criteria	_X_ Within acceptance criteria
___ Damaged - See attached report	___ Outside acceptance criteria	___ Limited test - See attached details
	___ Inoperative	
	___ Data not taken	

Date of Calibration: Feb. 21. 2023

Certificate issued: Feb. 21. 2023

Grant Kennedy

Calibration Technician

John Avitabile

John Avitabile

Quality Representative

The Hottinger Brüel & Kjær Inc. Calibration Laboratory
3079 Premiere Parkway Suite 120
Duluth, GA 30097
Telephone: 770-209-6907
Fax: 770-447-4033
Web site address: http://www.hbkworld.com

Calibration Certificate # 1568.01

CERTIFICATE OF CALIBRATION

No.: CAS-624660-F1H5W8-701

CALIBRATION OF:

Microphone: Brüel & Kjær Type 4966 Serial No. 3236858

CUSTOMER:

Harris Miller Miller & Hanson, Inc
700 District Ave, Ste 800
Burlington, MA 01803

CALIBRATION CONDITIONS:

Environment conditions:	Air temperature:	24	°C
	Air pressure:	97.74	kPa
	Relative Humidity:	42	%RH
Applied polarization voltage:	0 Vdc		

SPECIFICATIONS:

This document certifies that the instrument as listed under "Type" has been calibrated and unless otherwise indicated under "Final Data", meets acceptance criteria as prescribed by the referenced Procedure. Statements of compliance, where applicable, are based on calibration results falling within specified criteria with no reduction by the uncertainty of the measurements. The calibration of the listed transducer was accomplished using a test system which conforms to the requirements of ISO/IEC 17025, ANSI/NCSL Z540-1, and guidelines of ISO 10012-1. For "as received" and "final" data, see the attached page(s). Items marked with one asterisk (*) are not covered by the scope of the current A2LA accreditation. This Certificate and attached data pages shall not be reproduced, except in full, without written approval of the Hottinger Brüel & Kjær Calibration Laboratory-Duluth, GA. Results relate only to the items tested. The transducer has been calibrated using Measurement Standards with values traceable to the National Institute of Standards and Technology, National Measurement Institutes or derived from natural physical constants.

PROCEDURE:

The measurements have been performed with the assistance of the Hottinger Brüel & Kjær Inc. Microphone Calibration System B&K 9721 with application software WT9649 and WT9650 version 5.3.0.10 using calibration procedure: 4966 S251-FR01

RESULTS:

- [X] "As Received" Data: Within Acceptance Criteria
- [ ] "As Received" Data: Outside Acceptance Criteria
- [X] "Final" Data : Within Acceptance Criteria
- [ ] "Final" Data : Outside Acceptance Criteria

The reported expanded uncertainty is based on the standard uncertainty multiplied by a coverage factor $k=2$ providing a level of confidence of approximately 95%. The uncertainty evaluation has been carried out in accordance with EA-4/02 from elements originating from standards, calibration method, effect of environmental conditions and any short term contribution from the device under calibration.

Date of Calibration: February 17, 2023

Certificate issued: February 17, 2023

William Shipman
Calibration Technician

Meshaun Hobbs
Quality Representative

HBK HOTTINGER BRÜEL & KJÆR

The Hottinger Brüel & Kjær Inc. Calibration Laboratory
3079 Premiere Parkway Suite 120
Duluth, GA 30097
Telephone: 770-209-6907
Fax: 770-447-4033
Web site address: http://www.hbkworld.com

ACCREDITED

Calibration Certificate # 1568.01

CERTIFICATE OF CALIBRATION

No.: CAS-624660-F1H5W8-706

CALIBRATION OF:

Calibrator:	Brüel & Kjær	Type 4231 IEC Class: 1	Serial No.: 3025172

CUSTOMER:

Harris Miller Miller & Hanson, Inc
700 District Ave, Ste 800
Burlington, MA 01803

CALIBRATION CONDITIONS:

Environment conditions:	Air temperature:	23	°C
	Air pressure:	99.18	kPa
	Relative Humidity:	29	%RH

SPECIFICATIONS:

This document certifies that the acoustic calibrator as listed under "Type" has been calibrated and unless otherwise indicated under "Final Data", meets acceptance criteria as prescribed by the referenced Procedure. Statements of compliance, where applicable, are based on calibration results falling within specified criteria with no reduction by the uncertainty of the measurements. The calibration of the listed transducer was accomplished using a test system which conforms to the requirements of ISO/IEC 17025, ANSI/NCSL Z540-1, and guidelines of ISO 10012-1. For "as received" and "final" data, see the attached page(s). Items marked with one asterisk (*) are not covered by the scope of the current A2LA accreditation. This Certificate and attached data pages shall not be reproduced, except in full, without written approval of the Hottinger Brüel & Kjær Inc. Calibration Laboratory-Duluth, GA. Results relate only to the items tested. The transducer has been calibrated using Measurement Standards with values traceable to the National Institute of Standards and Technology, National Measurement Institutes or derived from natural physical constants. The acoustic calibrator has been calibrated in accordance with the requirements as specified in IEC60942.

PROCEDURE:

The measurements have been performed with the assistance of Hottinger Brüel & Kjær Inc. acoustic calibrator calibration application
Software version 2.3.4 Type 7794 using calibration procedure4231 Complete

RESULTS:

- [X] "As Received" Data: Within Acceptance Criteria
- [ ] "As Received" Data: Outside Acceptance Criteria
- [X] "Final" Data : Within Acceptance Criteria
- [ ] "Final" Data : Outside Acceptance Criteria

The reported expanded uncertainty is based on the standard uncertainty multiplied by a coverage factor $k = 2$, providing a level of confidence of approximately 95%. The uncertainty evaluation has been carried out in accordance with EA-4/02from elements originating from the standards, calibration method, effect of environmental conditions and any short time contribution from the calibrator under calibration.

Date of Calibration: February 18, 2023

Certificate issued: February 18, 2023

William Shipman
Calibration Technician

John Avitabile
Quality Representative

HBK
HOTTINGER BRÜEL & KJÆR

The Hottinger Bruel & Kjaer Calibration Laboratory
3079 Premiere Parkway Suite 120
Duluth, GA 30097
Telephone: 770/209-6907
Fax: 770/447-4033
Web site address: http://www.hbkworld.com

ACCREDITED
Calibration Certificate Number 1568.01

CERTIFICATE OF CALIBRATION

Certificate No: CAS-624660-F1H5W8-802

CALIBRATION OF:

Sound Level Meter:	Brüel & Kjær	2245	Serial No: 2245-100487
Microphone:	Brüel & Kjær	4966	Serial No: 3236859
Supplied Calibrator:	Brüel & Kjær	4231	Serial No: 3025175
Software version:	BZ7301 Version 1.1.2.386		

CLIENT:

Harris Miller Miller & Hanson Inc.
700 District Avenue Suite 800
Burlington, MA 01803

CALIBRATION CONDITIONS:

Preconditioning: 4 hours at 23 ± 3 °C

Environment conditions: See actual values in Environmental Condition sections

SPECIFICATIONS:

This document certifies that the instrument as listed under "Model/Serial Number" has been calibrated and unless otherwise indicated under "Final Data", meets acceptance criteria as prescribed by the referenced Procedure. The reported expanded uncertainty is based on the standard uncertainty multiplied by a coverage factor $k = 2$ providing a level of confidence of approximately 95%. Statements of compliance, where applicable, are based on calibration results falling within specified criteria with no reduction by the uncertainty of the measurement. The calibration of the listed instrumentation, was accomplished using a test system which conforms with the requirements of ISO/IEC 17025, ANSI/NCSL Z540-1, and ISO 10012-1. For "as received" and/or "final" data, see the attached page(s). Items marked with one asterisk (*) are not covered by the scope of the current A2LA accreditation This Certificate and attached data pages shall not be reproduced, except in full, without the written approval of the Hottinger Brüel & Kjær Calibration Laboratory-Duluth, GA. Results relate only to the items tested. This instrument has been calibrated using Measurement Standards with values traceable to the National Institute of Standards and Technology, National Measurement Institutes or derived from natural physical constants.

PROCEDURE:

Hottinger Brüel & Kjær Model 3630 Sound Level Meter Calibration System Software 7763 Version 8.6 - DB: 8.60 Test Collection 2245-E, 4966 (BZ-7301).

RESULTS:

As Received Condition	As Received Data	Final Data
_X_ Received in good condition	_X_ Within acceptance criteria	_X_ Within acceptance criteria
___ Damaged - See attached report	___ Outside acceptance criteria	___ Limited test - See attached details
	___ Inoperative	
	___ Data not taken	

Date of Calibration: Feb. 17. 2023

Certificate issued: Feb. 21. 2023

Grant Kennedy

Calibration Technician

John Avitabile

Quality Representative

HBK HOTTINGER BRÜEL & KJÆR
The Hottinger Brüel & Kjær Inc. Calibration Laboratory
3079 Premiere Parkway Suite 120
Duluth, GA 30097
Telephone: 770-209-6907
Fax: 770-447-4033
Web site address: http://www.hbkworld.com

ACCREDITED

Calibration Certificate # 1568.01

CERTIFICATE OF CALIBRATION

No.: CAS-624660-F1H5W8-702

CALIBRATION OF:

Microphone: Brüel & Kjær Type 4966 Serial No. 3236859

CUSTOMER:

Harris Miller Miller & Hanson, Inc
700 District Ave, Ste 800
Burlington, MA 01803

CALIBRATION CONDITIONS:

Environment conditions:	Air temperature:	24	°C
	Air pressure:	97.74	kPa
	Relative Humidity:	42	%RH
Applied polarization voltage:	0 Vdc		

SPECIFICATIONS:

This document certifies that the instrument as listed under "Type" has been calibrated and unless otherwise indicated under "Final Data", meets acceptance criteria as prescribed by the referenced Procedure. Statements of compliance, where applicable, are based on calibration results falling within specified criteria with no reduction by the uncertainty of the measurements. The calibration of the listed transducer was accomplished using a test system which conforms to the requirements of ISO/IEC 17025, ANSI/NCSL Z540-1, and guidelines of ISO 10012-1. For "as received" and "final" data, see the attached page(s). Items marked with one asterisk (*) are not covered by the scope of the current A2LA accreditation. This Certificate and attached data pages shall not be reproduced, except in full, without written approval of the Hottinger Brüel & Kjær Calibration Laboratory-Duluth, GA. Results relate only to the items tested. The transducer has been calibrated using Measurement Standards with values traceable to the National Institute of Standards and Technology, National Measurement Institutes or derived from natural physical constants.

PROCEDURE:

The measurements have been performed with the assistance of the Hottinger Brüel & Kjær Inc. Microphone Calibration System B&K 9721 with application software WT9649 and WT9650 version 5.3.0.10 using calibration procedure: 4966 S251-FR01

RESULTS:

[X] "As Received" Data: Within Acceptance Criteria   [ ] "As Received" Data: Outside Acceptance Criteria

[X] "Final" Data : Within Acceptance Criteria   [ ] "Final" Data : Outside Acceptance Criteria

The reported expanded uncertainty is based on the standard uncertainty multiplied by a coverage factor $k = 2$ providing a level of confidence of approximately 95%. The uncertainty evaluation has been carried out in accordance with EA-4/02 from elements originating from standards, calibration method, effect of environmental conditions and any short term contribution from the device under calibration.

Date of Calibration: February 17, 2023   Certificate issued: February 17, 2023

William Shipman
Calibration Technician

Meshaun Hobbs
Quality Representative

The Hottinger Brüel & Kjær Inc. Calibration Laboratory
3079 Premiere Parkway Suite 120
Duluth, GA 30097
Telephone: 770-209-6907
Fax: 770-447-4033
Web site address: http://www.hbkworld.com

Calibration Certificate # 1568.01

CERTIFICATE OF CALIBRATION

No.: CAS-624660-F1H5W8-707

CALIBRATION OF:

Calibrator:	Brüel & Kjær	Type 4231 IEC Class: 1	Serial No.:	3025175

CUSTOMER:

Harris Miller Miller & Hanson, Inc
700 District Ave, Ste 800
Burlington, MA 01803

CALIBRATION CONDITIONS:

Environment conditions:	Air temperature:	23	°C
	Air pressure:	99.18	kPa
	Relative Humidity:	29	%RH

SPECIFICATIONS:

This document certifies that the acoustic calibrator as listed under "Type" has been calibrated and unless otherwise indicated under "Final Data", meets acceptance criteria as prescribed by the referenced Procedure. Statements of compliance, where applicable, are based on calibration results falling within specified criteria with no reduction by the uncertainty of the measurements. The calibration of the listed transducer was accomplished using a test system which conforms to the requirements of ISO/IEC 17025, ANSI/NCSL Z540-1, and guidelines of ISO 10012-1. For "as received" and "final" data, see the attached page(s). Items marked with one asterisk (*) are not covered by the scope of the current A2LA accreditation. This Certificate and attached data pages shall not be reproduced, except in full, without written approval of the Hottinger Brüel & Kjær Inc. Calibration Laboratory-Duluth, GA. Results relate only to the items tested. The transducer has been calibrated using Measurement Standards with values traceable to the National Institute of Standards and Technology, National Measurement Institutes or derived from natural physical constants. The acoustic calibrator has been calibrated in accordance with the requirements as specified in IEC60942.

PROCEDURE:

The measurements have been performed with the assistance of Hottinger Brüel & Kjær Inc. acoustic calibrator calibration application
Software version 2.3.4 Type 7794 using calibration procedure4231 Complete

RESULTS:

- [X] "As Received" Data: Within Acceptance Criteria
- [ ] "As Received" Data: Outside Acceptance Criteria
- [X] "Final" Data : Within Acceptance Criteria
- [ ] "Final" Data : Outside Acceptance Criteria

The reported expanded uncertainty is based on the standard uncertainty multiplied by a coverage factor $k = 2$, providing a level of confidence of approximately 95%. The uncertainty evaluation has been carried out in accordance with EA-4/02from elements originating from the standards, calibration method, effect of environmental conditions and any short time contribution from the calibrator under calibration.

Date of Calibration: February 18, 2023

Certificate issued: February 18, 2023

William Shipman
Calibration Technician

John Avitabile
Quality Representative

ATTACHMENT B. TRAFFIC DATA

Table B-1. Traffic Data – 2023 Existing ADT and Time of Day Distribution

No	Roadway	Vehicle Type	Volumes				Percentages			
			Daytime	Evening	Night	Overall	Daytime	Evening	Night	Overall
1	East Riverside Dr west of S Walker Ave	PV	14,767	1,514	3,093	19,374	70%	7%	15%	92%
		HD	1,394	79	294	1,767	7%	0%	1%	8%
2	East Riverside Dr west of S Vineyard Dr	PV	13,758	1,443	2,765	17,966	70%	7%	14%	91%
		HD	1,341	86	290	1,717	7%	0%	1%	9%
3	S Vineyard Ave north of East Riverside Dr	PV	9,723	1,570	2,586	13,879	65%	10%	17%	92%
		HD	872	69	227	1,167	6%	0%	2%	8%
4	Ontario Ave south of East Riverside Dr	PV	752	98	155	1,005	59%	8%	12%	78%
		HD	232	9	37	278	18%	1%	3%	22%
5	East Riverside Dr west of Ontario Ave	PV	17,540	2,521	4,070	24,130	69%	10%	16%	95%
		HD	1,142	60	182	1,385	4%	0%	1%	5%
6	East Riverside Dr west of S Archibald Ave	PV	17,164	2,596	4,030	23,790	68%	10%	16%	94%
		HD	1,122	64	227	1,413	4%	0%	1%	6%
7	S Archibald Ave north of East Riverside Dr	PV	16,788	2,454	4,306	23,548	62%	9%	16%	86%
		HD	2,745	266	718	3,729	10%	1%	3%	14%
8	East Riverside Dr east of S Archibald Ave	PV	13,793	1,913	3,024	18,730	70%	10%	15%	95%
		HD	820	46	168	1,034	4%	0%	1%	5%
9	S Archibald Ave south of E Chino Ave	PV	14,709	2,208	4,128	21,045	61%	9%	17%	87%
		HD	2,305	216	566	3,087	10%	1%	2%	13%
10	Chino Ave west of Vineyard Ave	PV	1,993	134	357	2,483	59%	4%	11%	73%
		HD	672	57	175	903	20%	2%	5%	27%
11	Chino Ave east of Vineyard Ave	PV	2,099	156	390	2,645	58%	4%	11%	74%
		HD	706	59	182	947	20%	2%	5%	26%
12	Street A south of East Riverside Dr	PV	-	-	-	-	-	-	-	-
		HD	-	-	-	-	-	-	-	-
13	Vineyard Avenue South of East Riverside Dr	PV	-	-	-	-	-	-	-	-
		HD	-	-	-	-	-	-	-	-

Source: Fehr & Peers, 2024.

Table B-2. Traffic Data – 2050 No-Build ADT and Time of Day Distribution

No	Roadway	Vehicle Type	Volumes				Percentages			
			Daytime	Evening	Night	Overall	Daytime	Evening	Night	Overall
1	East Riverside Dr west of S Walker Ave	PV	25,547	2,431	5,109	33,087	75%	7%	15%	97%
		HD	790	75	158	1,023	2%	0%	0%	3%
2	East Riverside Dr west of S Vineyard Dr	PV	24,457	2,152	4,615	31,224	76%	7%	14%	97%
		HD	756	67	143	966	2%	0%	0%	3%
3	S Vineyard Ave north of East Riverside Dr	PV	15,814	2,416	4,050	22,281	69%	11%	18%	97%
		HD	489	75	125	689	2%	0%	1%	3%
4	Ontario Ave south of East Riverside Dr	PV	1,717	221	274	2,212	75%	10%	12%	97%
		HD	53	7	8	68	2%	0%	0%	3%
5	East Riverside Dr west of Ontario Ave	PV	28,098	3,073	5,728	36,899	74%	8%	15%	97%
		HD	869	95	177	1,141	2%	0%	0%	3%
6	East Riverside Dr west of S Archibald Ave	PV	28,421	3,209	5,725	37,355	74%	8%	15%	97%
		HD	879	99	177	1,155	2%	0%	0%	3%
7	S Archibald Ave north of East Riverside Dr	PV	25,424	3,686	5,632	34,742	70%	10%	16%	96%
		HD	1,059	154	235	1,448	3%	0%	1%	4%
8	East Riverside Dr east of S Archibald Ave	PV	23,283	2,791	4,645	30,720	74%	9%	15%	97%
		HD	720	86	144	950	2%	0%	0%	3%
9	S Archibald Ave south of E Chino Ave	PV	24,598	3,281	6,546	34,426	69%	9%	18%	96%
		HD	1,025	137	273	1,434	3%	0%	1%	4%
10	Chino Ave west of Vineyard Ave	PV	7,611	593	1,263	9,467	78%	6%	13%	97%
		HD	235	18	39	293	2%	0%	0%	3%
11	Chino Ave east of Vineyard Ave	PV	8,620	823	1,450	10,893	77%	7%	13%	97%
		HD	267	25	45	337	2%	0%	0%	3%
12	Street A south of East Riverside Dr	PV	2,191	183	517	2,891	75%	6%	18%	99%
		HD	22	2	5	29	1%	0%	0%	1%
13	Vineyard Avenue South of East Riverside Dr	PV	3,398	594	1,120	5,112	64%	11%	21%	97%
		HD	105	18	35	158	2%	0%	1%	3%

Source: Fehr & Peers, 2024.

Table B-3. Traffic Data – 2050 Build ADT and Time of Day Distribution

No	Roadway	Vehicle Type	Volumes				Percentages			
			Daytime	Evening	Night	Overall	Daytime	Evening	Night	Overall
1	East Riverside Dr west of S Walker Ave	PV	26,810	2,921	5,350	35,081	74%	8%	15%	97%
		HD	829	90	165	1,085	2%	0%	0%	3%
2	East Riverside Dr west of S Vineyard Dr	PV	25,452	2,667	4,537	32,656	76%	8%	13%	97%
		HD	787	82	140	1,010	2%	0%	0%	3%
3	S Vineyard Ave north of East Riverside Dr	PV	16,694	2,811	4,236	23,741	68%	11%	17%	97%
		HD	516	87	131	734	2%	0%	1%	3%
4	Ontario Ave south of East Riverside Dr	PV	4,576	1,081	812	6,469	69%	16%	12%	97%
		HD	142	33	25	200	2%	1%	0%	3%
5	East Riverside Dr west of Ontario Ave	PV	30,800	4,217	5,866	40,883	73%	10%	14%	97%
		HD	953	130	181	1,264	2%	0%	0%	3%
6	East Riverside Dr west of S Archibald Ave	PV	31,707	4,508	6,307	42,522	72%	10%	14%	97%
		HD	981	139	195	1,315	2%	0%	0%	3%
7	S Archibald Ave north of East Riverside Dr	PV	27,998	4,797	6,200	38,994	69%	12%	15%	96%
		HD	1,167	200	258	1,625	3%	0%	1%	4%
8	East Riverside Dr east of S Archibald Ave	PV	23,979	3,005	4,714	31,698	73%	9%	14%	97%
		HD	742	93	146	980	2%	0%	0%	3%
9	S Archibald Ave south of E Chino Ave	PV	26,767	4,090	6,962	37,819	68%	10%	18%	96%
		HD	1,115	170	290	1,576	3%	0%	1%	4%
10	Chino Ave west of Vineyard Ave	PV	8,265	936	1,435	10,636	75%	9%	13%	97%
		HD	256	29	44	329	2%	0%	0%	3%
11	Chino Ave east of Vineyard Ave	PV	9,734	1,382	1,674	12,790	74%	10%	13%	97%
		HD	301	43	52	396	2%	0%	0%	3%
12	Street A south of East Riverside Dr	PV	2,504	808	384	3,696	67%	22%	10%	99%
		HD	25	8	4	37	1%	0%	0%	1%
13	Vineyard Avenue South of East Riverside Dr	PV	5,565	1,405	1,756	8,725	62%	16%	20%	97%
		HD	172	43	54	270	2%	0%	1%	3%

Source: Fehr & Peers, 2024.

ATTACHMENT C. PREDICTED TRAFFIC-NOISE LEVELS

Table C-1. Predicted Traffic-Noise Levels for All Receptors, CNEL dBA

Receptor	Receptor Group	Land Use[1]	CNEL (dBA)			Measured Ambient Noise Environment (CNEL)	Allowable Increase in Traffic-Noise Levels (dBA)	Increase in Traffic-Noise Levels (2023 Existing to 2050 Build)	Impact Status
			2023	2050					
			Existing	No Build	Build				
R1	5	Res.	61.6	64.7	65.2	59.0	5	3.6	No Impact
R2	5	Res.	62.4	65.2	65.8	59.0	5	3.4	No Impact
R3	5	Res.	62.3	65.2	65.7	59.0	5	3.4	No Impact
R4	5	Res.	62.4	65.1	65.7	59.0	5	3.3	No Impact
R5	5	Res.	63.2	65.8	66.4	59.0	5	3.2	No Impact
R6	5	Res.	62.0	64.7	65.3	59.0	5	3.3	No Impact
R7	5	Res.	62.3	65.0	65.6	59.0	5	3.3	No Impact
R8	5	Res.	62.8	65.4	66.0	59.0	5	3.2	No Impact
R9	5	Res.	62.9	65.5	66.1	59.0	5	3.2	No Impact
R10	5	Res.	62.6	64.9	65.5	59.0	5	2.9	No Impact
R11	5	Res.	63.2	65.6	66.1	59.0	5	2.9	No Impact
R12	5	Res.	62.0	65.0	65.6	59.0	5	3.6	No Impact
R13	5	Res.	57.7	61.4	62.0	59.0	5	4.3	No Impact
R14	5	Res.	55.9	59.7	60.3	59.0	5	4.4	No Impact
R15	5	Res.	41.3	44.6	45.2	59.0	5	3.9	No Impact
R16	5	Res.	42.6	46.3	46.6	59.0	5	4.0	No Impact
R17	5	Res.	41.7	45.4	45.4	59.0	5	3.7	No Impact
R18	5	Res.	41.4	44.7	45.3	59.0	5	3.9	No Impact
R19	5	Res.	41.5	44.9	45.5	59.0	5	4.0	No Impact
R20	5	Res.	40.7	44.0	44.6	59.0	5	3.9	No Impact
R21	5	Res.	41.1	44.4	45.0	59.0	5	3.9	No Impact
R22	5	Res.	40.8	44.1	44.7	59.0	5	3.9	No Impact
R23	5	Res.	40.7	43.8	44.5	59.0	5	3.8	No Impact
R24	5	Res.	41.4	43.3	43.9	59.0	5	2.5	No Impact

Table C-1. Predicted Traffic-Noise Levels for All Receptors, CNEL dBA

Receptor	Receptor Group	Land Use[1]	CNEL (dBA)			Measured Ambient Noise Environment (CNEL)	Allowable Increase in Traffic-Noise Levels (dBA)	Increase in Traffic-Noise Levels (2023 Existing to 2050 Build)	Impact Status
			2023	2050					
			Existing	No Build	Build				
R25	5	Res.	46.3	47.4	48.0	59.0	5	1.7	No Impact
R26	5	Res.	56.5	60.4	60.8	59.0	5	4.3	No Impact
R27	5	Res.	55.6	59.3	59.8	59.0	5	4.2	No Impact
R28	5	Res.	55.0	58.5	58.9	59.0	5	3.9	No Impact
R29	5	Res.	54.1	57.3	57.8	59.0	5	3.7	No Impact
R30	5	Res.	53.8	57.0	57.2	59.0	5	3.4	No Impact
R31	5	Res.	53.2	56.7	56.8	59.0	5	3.6	No Impact
R32	5	Res.	51.7	55.0	55.3	59.0	5	3.6	No Impact
R33	5	Res.	44.9	48.3	48.3	59.0	5	3.4	No Impact
R34	5	Res.	42.5	45.9	46.5	59.0	5	4.0	No Impact
R35	5	Res.	43.4	46.7	47.3	59.0	5	3.9	No Impact
R36	5	Res.	43.2	46.6	47.0	59.0	5	3.8	No Impact
R37	5	Res.	43.1	46.5	46.9	59.0	5	3.8	No Impact
R38	5	Res.	41.8	45.1	45.7	59.0	5	3.9	No Impact
R39	5	Res.	45.0	48.3	49.0	59.0	5	4.0	No Impact
R40	5	Res.	44.2	47.5	48.0	59.0	5	3.8	No Impact
R41	5	Res.	46.4	49.7	50.3	59.0	5	3.9	No Impact
R42	5	Res.	47.6	50.1	50.7	59.0	5	3.1	No Impact
R43	5	Res.	41.5	44.9	45.2	59.0	5	3.7	No Impact
R44	5	Res.	39.7	43.1	43.4	59.0	5	3.7	No Impact
R45	5	Res.	38.7	42.0	42.4	59.0	5	3.7	No Impact
R46	5	Res.	39.0	42.4	42.8	59.0	5	3.8	No Impact
R47	5	Res.	38.0	41.3	41.8	59.0	5	3.8	No Impact
R48	5	Res.	37.7	41.0	41.5	59.0	5	3.8	No Impact

Table C-1. Predicted Traffic-Noise Levels for All Receptors, CNEL dBA

Receptor	Receptor Group	Land Use[1]	CNEL (dBA)			Measured Ambient Noise Environment (CNEL)	Allowable Increase in Traffic-Noise Levels (dBA)	Increase in Traffic-Noise Levels (2023 Existing to 2050 Build)	Impact Status
			2023	2050					
			Existing	No Build	Build				
R49	5	Res.	38.2	41.6	42.0	59.0	5	3.8	No Impact
R50	5	Res.	39.0	42.0	42.5	59.0	5	3.5	No Impact
R51	5	Res.	37.9	41.1	41.5	59.0	5	3.6	No Impact
R52	5	Res.	38.7	41.9	42.4	59.0	5	3.7	No Impact
R53	5	Res.	41.6	45.0	45.3	59.0	5	3.7	No Impact
R54	5	Res.	40.0	43.5	43.8	59.0	5	3.8	No Impact
R55	5	Res.	39.5	42.8	43.4	59.0	5	3.9	No Impact
R56	5	Res.	39.6	43.0	43.4	59.0	5	3.8	No Impact
R57	5	Res.	38.5	41.9	42.3	59.0	5	3.8	No Impact
R58	5	Res.	38.5	41.8	42.3	59.0	5	3.8	No Impact
R59	5	Res.	39.1	42.4	43.0	59.0	5	3.9	No Impact
R60	5	Res.	38.9	42.1	42.6	59.0	5	3.7	No Impact
R61	5	Res.	38.5	41.7	42.3	59.0	5	3.8	No Impact
R62	5	Res.	39.2	42.5	43.1	59.0	5	3.9	No Impact
R63	5	Res.	53.3	52.8	53.4	59.0	5	0.1	No Impact
R64	5	Res.	42.0	44.2	44.8	59.0	5	2.8	No Impact
R65	5	Res.	40.5	42.3	42.9	59.0	5	2.4	No Impact
R66	5	Res.	39.2	42.0	42.6	59.0	5	3.4	No Impact
R67	5	Res.	37.4	40.5	41.1	59.0	5	3.7	No Impact
R68	5	Res.	37.1	40.2	40.9	59.0	5	3.8	No Impact
R69	5	Res.	37.6	40.6	41.2	59.0	5	3.6	No Impact
R70	5	Res.	36.2	39.3	40.0	59.0	5	3.8	No Impact
R71	5	Res.	37.0	40.1	40.6	59.0	5	3.6	No Impact
R72	5	Res.	36.8	40.0	40.4	59.0	5	3.6	No Impact

Table C-1. Predicted Traffic-Noise Levels for All Receptors, CNEL dBA

Receptor	Receptor Group	Land Use[1]	CNEL (dBA)			Measured Ambient Noise Environment (CNEL)	Allowable Increase in Traffic-Noise Levels (dBA)	Increase in Traffic-Noise Levels (2023 Existing to 2050 Build)	Impact Status
			2023	2050					
			Existing	No Build	Build				
R73	5	Res.	36.9	40.0	40.4	59.0	5	3.5	No Impact
R74	5	Res.	37.3	40.5	40.9	59.0	5	3.6	No Impact
R75	5	Res.	36.8	40.0	40.3	59.0	5	3.5	No Impact
R76	5	Res.	37.2	40.5	40.8	59.0	5	3.6	No Impact
R77	5	Res.	37.5	40.8	40.9	59.0	5	3.4	No Impact
R78	5	Res.	37.7	41.0	40.9	59.0	5	3.2	No Impact
R79	5	Res.	38.7	42.0	42.0	59.0	5	3.3	No Impact
R80	5	Res.	39.5	42.9	42.6	59.0	5	3.1	No Impact
R81	5	Res.	38.7	42.0	42.0	59.0	5	3.3	No Impact
R82	5	Res.	38.0	41.3	41.6	59.0	5	3.6	No Impact
R83	5	Res.	37.7	41.0	41.3	59.0	5	3.6	No Impact
R84	5	Res.	38.1	41.4	41.8	59.0	5	3.7	No Impact
R85	5	Res.	37.2	40.4	40.9	59.0	5	3.7	No Impact
R86	5	Res.	37.3	40.5	41.0	59.0	5	3.7	No Impact
R87	5	Res.	37.6	40.8	41.4	59.0	5	3.8	No Impact
R88	5	Res.	37.1	40.3	41.0	59.0	5	3.9	No Impact
R89	5	Res.	37.0	40.1	40.8	59.0	5	3.8	No Impact
R90	5	Res.	36.5	39.7	40.3	59.0	5	3.8	No Impact
R91	5	Res.	37.1	40.3	41.0	59.0	5	3.9	No Impact
R92	5	Res.	36.9	40.0	40.5	59.0	5	3.6	No Impact
R93	5	Res.	36.9	40.1	40.6	59.0	5	3.7	No Impact
R94	5	Res.	37.2	40.3	40.8	59.0	5	3.6	No Impact
R95	5	Res.	36.9	40.1	40.5	59.0	5	3.6	No Impact
R96	5	Res.	37.4	40.6	40.9	59.0	5	3.5	No Impact

Table C-1. Predicted Traffic-Noise Levels for All Receptors, CNEL dBA

Receptor	Receptor Group	Land Use[1]	CNEL (dBA)			Measured Ambient Noise Environment (CNEL)	Allowable Increase in Traffic-Noise Levels (dBA)	Increase in Traffic-Noise Levels (2023 Existing to 2050 Build)	Impact Status
			2023	2050					
			Existing	No Build	Build				
R97	5	Res.	37.5	40.7	41.0	59.0	5	3.5	No Impact
R98	5	Res.	37.5	40.8	40.9	59.0	5	3.4	No Impact
R99	5	Res.	38.4	41.5	41.8	59.0	5	3.4	No Impact
R100	5	Res.	39.1	42.4	42.6	59.0	5	3.5	No Impact
R101	5	Res.	38.4	41.6	41.9	59.0	5	3.5	No Impact
R102	5	Res.	38.1	41.3	41.6	59.0	5	3.5	No Impact
R103	5	Res.	37.5	40.7	41.2	59.0	5	3.7	No Impact
R104	5	Res.	37.7	41.0	41.4	59.0	5	3.7	No Impact
R105	5	Res.	37.4	40.6	41.2	59.0	5	3.8	No Impact
R106	5	Res.	37.1	40.2	40.8	59.0	5	3.7	No Impact
R107	5	Res.	37.1	40.3	40.9	59.0	5	3.8	No Impact
R108	5	Res.	36.4	39.6	40.2	59.0	5	3.8	No Impact
R109	5	Res.	36.8	39.9	40.6	59.0	5	3.8	No Impact
R110	5	Res.	36.2	39.3	39.9	59.0	5	3.7	No Impact
R111	5	Res.	35.8	38.8	39.4	59.0	5	3.6	No Impact
R112	5	Res.	36.1	39.0	39.8	59.0	5	3.7	No Impact
R113	5	Res.	36.4	39.3	39.9	59.0	5	3.5	No Impact
R114	5	Res.	36.8	39.7	40.3	59.0	5	3.5	No Impact
R115	5	Res.	36.8	39.7	40.2	59.0	5	3.4	No Impact
R116	5	Res.	37.5	40.3	40.7	59.0	5	3.2	No Impact
R117	5	Res.	37.9	40.8	41.1	59.0	5	3.2	No Impact
R118	5	Res.	38.4	41.3	41.5	59.0	5	3.1	No Impact
R119	5	Res.	39.5	42.4	42.5	59.0	5	3.0	No Impact
R120	5	Res.	38.5	41.5	41.0	59.0	5	2.5	No Impact

Table C-1. Predicted Traffic-Noise Levels for All Receptors, CNEL dBA

Receptor	Receptor Group	Land Use[1]	CNEL (dBA)			Measured Ambient Noise Environment (CNEL)	Allowable Increase in Traffic-Noise Levels (dBA)	Increase in Traffic-Noise Levels (2023 Existing to 2050 Build)	Impact Status
			2023	2050					
			Existing	No Build	Build				
R121	5	Res.	37.2	40.1	40.8	59.0	5	3.6	No Impact
R122	5	Res.	37.2	40.2	40.8	59.0	5	3.6	No Impact
R123	5	Res.	36.6	39.7	40.4	59.0	5	3.8	No Impact
R124	5	Res.	37.0	40.0	40.7	59.0	5	3.7	No Impact
R125	5	Res.	36.3	39.4	40.2	59.0	5	3.9	No Impact
R126	5	Res.	36.5	39.6	40.4	59.0	5	3.9	No Impact
R127	5	Res.	36.8	39.9	40.6	59.0	5	3.8	No Impact
R128	5	Res.	36.0	39.1	39.8	59.0	5	3.8	No Impact
R129	5	Res.	35.6	38.7	39.4	59.0	5	3.8	No Impact
R130	5	Res.	35.7	38.5	39.3	59.0	5	3.6	No Impact
R131	5	Res.	36.5	39.2	40.0	59.0	5	3.5	No Impact
R132	5	Res.	36.4	38.9	39.8	59.0	5	3.4	No Impact
R133	5	Res.	37.0	39.6	40.2	59.0	5	3.2	No Impact
R134	5	Res.	36.2	39.1	40.1	59.0	5	3.9	No Impact
R135	5	Res.	36.3	39.2	40.2	59.0	5	3.9	No Impact
R136	5	Res.	36.1	39.0	39.9	59.0	5	3.8	No Impact
R137	5	Res.	36.6	39.5	40.4	59.0	5	3.8	No Impact
R138	5	Res.	36.3	39.1	40.0	59.0	5	3.7	No Impact
R139	5	Res.	37.1	39.9	40.7	59.0	5	3.6	No Impact
R140	5	Res.	37.1	39.9	40.8	59.0	5	3.7	No Impact
R141	5	Res.	37.9	40.6	41.4	59.0	5	3.5	No Impact
R142	5	Res.	37.9	40.6	41.2	59.0	5	3.3	No Impact
R143	5	Res.	38.7	41.4	42.1	59.0	5	3.4	No Impact
R144	5	Res.	38.2	40.7	41.5	59.0	5	3.3	No Impact

Table C-1. Predicted Traffic-Noise Levels for All Receptors, CNEL dBA

Receptor	Receptor Group	Land Use[1]	CNEL (dBA)			Measured Ambient Noise Environment (CNEL)	Allowable Increase in Traffic-Noise Levels (dBA)	Increase in Traffic-Noise Levels (2023 Existing to 2050 Build)	Impact Status
			2023	2050					
			Existing	No Build	Build				
R145	5	Res.	37.9	40.4	40.8	59.0	5	2.9	No Impact
R146	5	Res.	37.5	40.2	40.9	59.0	5	3.4	No Impact
R147	5	Res.	37.5	40.1	40.8	59.0	5	3.3	No Impact
R148	5	Res.	37.1	39.9	40.7	59.0	5	3.6	No Impact
R149	5	Res.	36.7	39.4	40.2	59.0	5	3.5	No Impact
R150	5	Res.	36.3	39.1	39.9	59.0	5	3.6	No Impact
R151	5	Res.	36.3	39.0	40.0	59.0	5	3.7	No Impact
R152	5	Res.	36.1	38.9	39.7	59.0	5	3.6	No Impact
R153	5	Res.	36.0	38.7	39.7	59.0	5	3.7	No Impact
R154	5	Res.	38.6	40.6	41.4	59.0	5	2.8	No Impact
R155	5	Res.	40.0	42.0	42.6	59.0	5	2.6	No Impact
R156	5	Res.	39.3	41.1	41.8	59.0	5	2.5	No Impact
R157	5	Res.	39.0	40.5	41.4	59.0	5	2.4	No Impact
R158	5	Res.	39.8	41.1	41.9	59.0	5	2.1	No Impact
R159	5	Res.	38.8	40.4	41.3	59.0	5	2.5	No Impact
R160	5	Res.	36.0	38.4	39.2	59.0	5	3.2	No Impact
R161	5	Res.	37.5	40.1	40.8	59.0	5	3.3	No Impact
R162	5	Res.	37.1	39.9	40.5	59.0	5	3.4	No Impact
R163	5	Res.	38.5	41.0	41.4	59.0	5	2.9	No Impact
R164	5	Res.	38.4	40.9	41.5	59.0	5	3.1	No Impact
R165	5	Res.	38.9	41.5	42.0	59.0	5	3.1	No Impact
R166	5	Res.	39.0	41.7	42.3	59.0	5	3.3	No Impact
R167	5	Res.	38.1	40.8	41.3	59.0	5	3.2	No Impact
R168	5	Res.	37.6	40.3	40.7	59.0	5	3.1	No Impact

Table C-1. Predicted Traffic-Noise Levels for All Receptors, CNEL dBA

Receptor	Receptor Group	Land Use[1]	CNEL (dBA)			Measured Ambient Noise Environment (CNEL)	Allowable Increase in Traffic-Noise Levels (dBA)	Increase in Traffic-Noise Levels (2023 Existing to 2050 Build)	Impact Status
			2023	2050					
			Existing	No Build	Build				
R169	5	Res.	37.3	40.0	40.8	59.0	5	3.5	No Impact
R170	5	Res.	36.8	39.6	40.4	59.0	5	3.6	No Impact
R171	5	Res.	37.0	39.3	39.9	59.0	5	2.9	No Impact
R172	5	Res.	42.0	43.2	44.0	59.0	5	2.0	No Impact
R173	5	Res.	43.2	44.4	45.1	59.0	5	1.9	No Impact
R174	5	Res.	44.4	45.6	46.4	59.0	5	2.0	No Impact
R175	5	Res.	48.7	50.2	51.0	59.0	5	2.3	No Impact
R176	5	Res.	49.5	51.2	52.0	59.0	5	2.5	No Impact
R177	5	Res.	50.2	52.6	53.4	59.0	5	3.2	No Impact
R178	5	Res.	47.4	51.2	52.0	59.0	5	4.6	No Impact
R179	5	Res.	43.1	46.0	46.7	59.0	5	3.6	No Impact
R180	5	Res.	43.1	45.9	46.6	59.0	5	3.5	No Impact
R181	5	Res.	41.6	44.5	45.3	59.0	5	3.7	No Impact
R182	5	Res.	40.8	43.7	44.4	59.0	5	3.6	No Impact
R183	5	Res.	41.1	44.0	44.7	59.0	5	3.6	No Impact
R184	5	Res.	41.7	44.6	45.3	59.0	5	3.6	No Impact
R185	5	Res.	44.4	47.5	48.2	59.0	5	3.8	No Impact
R186	5	Res.	45.6	48.6	49.3	59.0	5	3.7	No Impact
R187	5	Res.	49.5	52.9	53.7	59.0	5	4.2	No Impact
R188	5	Res.	64.2	67.7	68.5	59.0	5	4.3	No Impact
R189	5	Res.	64.9	68.4	69.3	59.0	5	4.4	No Impact
R190	5	Res.	64.3	67.8	68.6	59.0	5	4.3	No Impact
R191	5	Res.	65.4	69.0	69.8	59.0	5	4.4	No Impact
R192	5	Res.	64.1	67.7	68.5	59.0	5	4.4	No Impact

Table C-1. Predicted Traffic-Noise Levels for All Receptors, CNEL dBA

Receptor	Receptor Group	Land Use[1]	CNEL (dBA)			Measured Ambient Noise Environment (CNEL)	Allowable Increase in Traffic-Noise Levels (dBA)	Increase in Traffic-Noise Levels (2023 Existing to 2050 Build)	Impact Status
			2023	2050					
			Existing	No Build	Build				
R193	5	Res.	66.6	70.2	71.0	59.0	5	4.4	No Impact
R194	5	Res.	58.1	61.0	61.8	59.0	5	3.7	No Impact
R195	5	Res.	55.8	58.3	59.0	59.0	5	3.2	No Impact
R196	5	Res.	54.8	57.4	58.2	59.0	5	3.4	No Impact
R197	5	Res.	53.9	56.4	57.1	59.0	5	3.2	No Impact
R198	5	Res.	52.1	54.4	55.0	59.0	5	2.9	No Impact
R199	5	Res.	52.2	54.9	55.5	59.0	5	3.3	No Impact
R200	5	Res.	51.7	54.8	55.2	59.0	5	3.5	No Impact
R201	5	Res.	50.3	53.0	53.3	59.0	5	3.0	No Impact
R202	5	Res.	50.4	53.2	53.6	59.0	5	3.2	No Impact
R203	5	Res.	49.8	52.6	52.8	59.0	5	3.0	No Impact
R204	5	Res.	48.1	51.1	51.0	59.0	5	2.9	No Impact
R205	5	Res.	48.1	50.8	50.5	59.0	5	2.4	No Impact
R206	5	Res.	47.2	49.9	49.3	59.0	5	2.1	No Impact
R207	5	Res.	46.7	49.4	48.7	59.0	5	2.0	No Impact
R208	5	Res.	46.4	49.1	48.3	59.0	5	1.9	No Impact
R209	5	Res.	46.1	48.7	48.0	59.0	5	1.9	No Impact
R210	5	Res.	45.4	48.2	47.3	59.0	5	1.9	No Impact
R211	5	Res.	45.8	48.6	47.3	59.0	5	1.5	No Impact
R212	5	Res.	45.7	48.5	47.3	59.0	5	1.6	No Impact
R213	5	Res.	48.6	51.6	51.1	59.0	5	2.5	No Impact
R214	5	Res.	48.0	50.9	50.5	59.0	5	2.5	No Impact
R215	5	Res.	47.5	50.4	49.4	59.0	5	1.9	No Impact
R216	5	Res.	46.9	50.2	49.6	59.0	5	2.7	No Impact

Table C-1. Predicted Traffic-Noise Levels for All Receptors, CNEL dBA

Receptor	Receptor Group	Land Use[1]	CNEL (dBA)			Measured Ambient Noise Environment (CNEL)	Allowable Increase in Traffic-Noise Levels (dBA)	Increase in Traffic-Noise Levels (2023 Existing to 2050 Build)	Impact Status
			2023	2050					
			Existing	No Build	Build				
R217	5	Res.	47.6	50.8	49.8	59.0	5	2.2	No Impact
R218	5	Res.	46.1	49.1	47.8	59.0	5	1.7	No Impact
R219	5	Res.	46.1	49.2	47.7	59.0	5	1.6	No Impact
R220	5	Res.	45.8	48.6	47.0	59.0	5	1.2	No Impact
R221	5	Res.	51.8	55.0	55.1	59.0	5	3.3	No Impact
R222	5	Res.	50.3	53.3	53.3	59.0	5	3.0	No Impact
R223	5	Res.	49.9	53.2	53.0	59.0	5	3.1	No Impact
R224	5	Res.	49.9	53.3	53.3	59.0	5	3.4	No Impact
R225	5	Res.	49.2	52.3	52.0	59.0	5	2.8	No Impact
R226	5	Res.	58.7	62.4	63.2	59.0	5	4.5	No Impact
R227	2	Res.	66.1	67.7	67.9	58.0	5	1.8	No Impact
R228	2	Res.	59.9	60.9	61.2	58.0	5	1.3	No Impact
R229	2	Res.	56.6	57.6	57.9	58.0	5	1.3	No Impact
R230	2	Res.	54.4	56.0	56.3	58.0	5	1.9	No Impact
R231	2	Res.	55.0	56.9	57.2	58.0	5	2.2	No Impact
R232	2	Res.	54.9	56.9	57.2	58.0	5	2.3	No Impact
R233	2	Res.	51.8	54.4	54.7	58.0	5	2.9	No Impact
R234	2	Res.	50.0	52.8	53.1	58.0	5	3.1	No Impact
R235	2	Res.	50.5	53.5	53.8	58.0	5	3.3	No Impact
R236	2	Res.	49.8	53.1	53.4	58.0	5	3.6	No Impact
R237	2	Res.	50.3	53.6	53.9	58.0	5	3.6	No Impact
R238	2	Res.	50.5	53.7	54.1	58.0	5	3.6	No Impact
R239	2	Res.	54.0	56.8	57.2	58.0	5	3.2	No Impact
R240	2	Res.	52.8	55.9	56.2	58.0	5	3.4	No Impact

Table C-1. Predicted Traffic-Noise Levels for All Receptors, CNEL dBA

Receptor	Receptor Group	Land Use[1]	CNEL (dBA)			Measured Ambient Noise Environment (CNEL)	Allowable Increase in Traffic-Noise Levels (dBA)	Increase in Traffic-Noise Levels (2023 Existing to 2050 Build)	Impact Status
			2023	2050					
			Existing	No Build	Build				
R241	2	Res.	59.8	64.4	64.8	58.0	5	5.0	No Impact
R242	2	Res.	68.4	72.4	72.8	58.0	5	4.4	No Impact
R243	2	Res.	66.4	70.8	71.2	58.0	5	4.8	No Impact
R244	2	Res.	72.0	75.4	75.8	58.0	5	3.8	No Impact
R245	2	Res.	60.6	64.6	64.9	58.0	5	4.3	No Impact
R246	2	Res.	55.9	58.8	59.1	58.0	5	3.2	No Impact
R247	2	Res.	52.6	55.6	55.8	58.0	5	3.2	No Impact
R248	2	Res.	50.1	52.8	53.2	58.0	5	3.1	No Impact
R249	2	Res.	50.5	53.3	54.0	58.0	5	3.5	No Impact
R250	2	Res.	47.3	50.4	51.0	58.0	5	3.7	No Impact
R251	2	Res.	46.7	49.9	50.2	58.0	5	3.5	No Impact
R252	2	Res.	46.3	49.5	49.8	58.0	5	3.5	No Impact
R253	2	Res.	47.3	50.4	50.8	58.0	5	3.5	No Impact
R254	2	Res.	50.6	53.4	53.7	58.0	5	3.1	No Impact
R255	2	Res.	48.0	51.2	51.6	58.0	5	3.6	No Impact
R256	2	Res.	48.3	51.6	52.0	58.0	5	3.7	No Impact
R257	2	Res.	46.5	49.7	50.0	58.0	5	3.5	No Impact
R258	2	Res.	48.1	51.1	51.6	58.0	5	3.5	No Impact
R259	2	Res.	48.1	51.2	51.6	58.0	5	3.5	No Impact
R260	2	Res.	48.0	51.1	51.5	58.0	5	3.5	No Impact
R261	2	Res.	46.9	50.1	50.4	58.0	5	3.5	No Impact
R262	2	Res.	46.2	49.5	49.8	58.0	5	3.6	No Impact
R263	2	Res.	48.2	51.3	51.6	58.0	5	3.4	No Impact
R264	2	Res.	47.7	50.8	51.2	58.0	5	3.5	No Impact

Table C-1. Predicted Traffic-Noise Levels for All Receptors, CNEL dBA

Receptor	Receptor Group	Land Use[1]	CNEL (dBA)			Measured Ambient Noise Environment (CNEL)	Allowable Increase in Traffic-Noise Levels (dBA)	Increase in Traffic-Noise Levels (2023 Existing to 2050 Build)	Impact Status
			2023	2050					
			Existing	No Build	Build				
R265	2	Res.	45.7	48.9	49.2	58.0	5	3.5	No Impact
R266	2	Res.	43.5	46.7	47.0	58.0	5	3.5	No Impact
R267	2	Res.	42.5	45.7	46.1	58.0	5	3.6	No Impact
R268	2	Res.	40.2	43.3	43.7	58.0	5	3.5	No Impact
R269	2	Res.	45.2	47.8	48.5	58.0	5	3.3	No Impact
R271	2	Res.	48.3	51.3	51.5	58.0	5	3.2	No Impact
R272	2	Res.	49.0	51.9	52.1	58.0	5	3.1	No Impact
R273	2	Res.	49.1	51.7	52.0	58.0	5	2.9	No Impact
R274	2	Res.	47.7	50.5	50.8	58.0	5	3.1	No Impact
R275	2	Res.	50.7	53.0	53.3	58.0	5	2.6	No Impact
R276	2	Res.	49.6	52.6	52.8	58.0	5	3.2	No Impact
R277	2	Res.	50.8	53.5	53.8	58.0	5	3.0	No Impact
R278	2	Res.	53.3	54.5	54.8	58.0	5	1.5	No Impact
R279	2	Res.	54.9	56.0	56.2	58.0	5	1.3	No Impact
R280	2	Res.	51.9	53.9	54.2	58.0	5	2.3	No Impact
R281	2	Res.	57.1	57.6	57.8	58.0	5	0.7	No Impact
R282	2	Res.	61.2	61.6	61.9	58.0	5	0.7	No Impact
R283	2	Res.	57.9	58.8	59.1	58.0	5	1.2	No Impact
R284	2	Res.	61.9	62.4	62.6	58.0	5	0.7	No Impact
R285	2	Res.	66.3	67.5	67.7	58.0	5	1.4	No Impact
R286	2	Res.	67.5	69.1	69.3	58.0	5	1.8	No Impact
R287	2	Res.	59.9	60.7	61.0	58.0	5	1.1	No Impact
R288	2	Res.	62.4	63.1	63.4	58.0	5	1.0	No Impact
R289	1	Res.	69.2	72.8	72.9	58.0	5	3.7	No Impact

Table C-1. Predicted Traffic-Noise Levels for All Receptors, CNEL dBA

Receptor	Receptor Group	Land Use[1]	CNEL (dBA)			Measured Ambient Noise Environment (CNEL)	Allowable Increase in Traffic-Noise Levels (dBA)	Increase in Traffic-Noise Levels (2023 Existing to 2050 Build)	Impact Status
			2023	2050					
			Existing	No Build	Build				
R290	1	Res.	72.0	75.3	75.4	58.0	5	3.4	No Impact
R291	1	Res.	71.7	75.1	75.2	58.0	5	3.5	No Impact
R292	1	Res.	69.0	72.6	72.8	58.0	5	3.8	No Impact
R293	1	Res.	72.1	75.5	75.6	58.0	5	3.5	No Impact
R294	1	Res.	71.6	75.0	75.1	58.0	5	3.5	No Impact
R295	1	Res.	71.8	75.2	75.4	58.0	5	3.6	No Impact
R296	1	Res.	71.6	75.0	75.1	58.0	5	3.5	No Impact
R297	1	Res.	71.6	75.0	75.2	58.0	5	3.6	No Impact
R298	1	Res.	71.0	74.5	74.6	58.0	5	3.6	No Impact
R299	1	Res.	71.1	74.6	74.7	58.0	5	3.6	No Impact
R300	1	Res.	70.8	74.3	74.5	58.0	5	3.7	No Impact
R301	1	Res.	70.8	74.2	74.4	58.0	5	3.6	No Impact
R302	1	Res.	69.2	72.7	72.8	58.0	5	3.6	No Impact
R303	1	Res.	68.0	71.2	71.4	58.0	5	3.4	No Impact
R304	1	Res.	54.4	57.8	58.0	58.0	5	3.6	No Impact
R305	1	Res.	51.1	54.1	54.3	58.0	5	3.2	No Impact
R306	1	Res.	54.5	58.1	58.2	58.0	5	3.7	No Impact
R307	1	Res.	52.8	55.0	55.4	58.0	5	2.6	No Impact
R308	1	Res.	49.4	52.2	52.5	58.0	5	3.1	No Impact
R309	1	Res.	49.7	52.7	52.9	58.0	5	3.2	No Impact
R310	1	Res.	57.6	61.4	61.5	58.0	5	3.9	No Impact
R311	1	Res.	53.6	57.0	57.1	58.0	5	3.5	No Impact
R312	1	Res.	50.8	53.8	53.9	58.0	5	3.1	No Impact
R313	1	Res.	53.5	56.9	56.9	58.0	5	3.4	No Impact

Table C-1. Predicted Traffic-Noise Levels for All Receptors, CNEL dBA

Receptor	Receptor Group	Land Use[1]	CNEL (dBA)			Measured Ambient Noise Environment (CNEL)	Allowable Increase in Traffic-Noise Levels (dBA)	Increase in Traffic-Noise Levels (2023 Existing to 2050 Build)	Impact Status
			2023	2050					
			Existing	No Build	Build				
R314	1	Res.	53.5	56.5	56.6	58.0	5	3.1	No Impact
R315	1	Res.	48.2	51.1	51.2	58.0	5	3.0	No Impact
R316	1	Res.	50.4	53.1	53.1	58.0	5	2.7	No Impact
R317	1	Res.	49.4	52.2	52.4	58.0	5	3.0	No Impact
R318	1	Res.	50.3	53.3	53.4	58.0	5	3.1	No Impact
R319	1	Res.	52.1	55.2	55.3	58.0	5	3.2	No Impact
R320	1	Res.	47.6	50.6	50.7	58.0	5	3.1	No Impact
R321	1	Res.	48.4	51.2	51.3	58.0	5	2.9	No Impact
R322	1	Res.	51.0	53.9	54.0	58.0	5	3.0	No Impact
R323	1	Res.	48.9	51.8	51.9	58.0	5	3.0	No Impact
R324	1	Res.	47.0	50.0	50.2	58.0	5	3.2	No Impact
R325	1	Res.	53.1	56.1	56.2	58.0	5	3.1	No Impact
R326	1	Res.	49.8	52.7	52.9	58.0	5	3.1	No Impact
R327	1	Res.	48.8	51.7	51.9	58.0	5	3.1	No Impact
R328	1	Res.	69.5	71.2	71.5	58.0	5	2.0	No Impact
R329	1	Res.	69.2	70.8	71.0	58.0	5	1.8	No Impact
R330	1	Res.	69.6	70.9	71.1	58.0	5	1.5	No Impact
R331	1	Res.	69.7	70.9	71.2	58.0	5	1.5	No Impact
R332	1	Res.	70.1	71.2	71.4	58.0	5	1.3	No Impact
R333	1	Res.	58.1	60.9	61.0	58.0	5	2.9	No Impact
R334	1	Res.	53.7	56.1	56.3	58.0	5	2.6	No Impact
R335	1	Res.	55.0	57.8	58.0	58.0	5	3.0	No Impact
R336	1	Res.	53.4	56.0	56.2	58.0	5	2.8	No Impact
R337	1	Res.	52.0	54.5	54.7	58.0	5	2.7	No Impact

Table C-1. Predicted Traffic-Noise Levels for All Receptors, CNEL dBA

Receptor	Receptor Group	Land Use[1]	CNEL (dBA)			Measured Ambient Noise Environment (CNEL)	Allowable Increase in Traffic-Noise Levels (dBA)	Increase in Traffic-Noise Levels (2023 Existing to 2050 Build)	Impact Status
			2023	2050					
			Existing	No Build	Build				
R338	1	Res.	56.1	57.8	58.1	58.0	5	2.0	No Impact
R339	1	Res.	52.7	55.4	55.7	58.0	5	3.0	No Impact
R340	1	Res.	50.1	52.9	53.2	58.0	5	3.1	No Impact
R341	1	Res.	52.4	54.9	55.2	58.0	5	2.8	No Impact
R342	1	Res.	51.1	53.8	54.1	58.0	5	3.0	No Impact
R343	1	Res.	50.7	53.6	53.8	58.0	5	3.1	No Impact
R344	1	Res.	51.1	53.9	54.0	58.0	5	2.9	No Impact
R345	1	Res.	49.1	51.9	52.0	58.0	5	2.9	No Impact
R346	1	Res.	46.2	49.2	49.4	58.0	5	3.2	No Impact
R347	1	Res.	45.5	48.5	48.7	58.0	5	3.2	No Impact
R348	1	Res.	47.4	50.3	50.4	58.0	5	3.0	No Impact
R349	1	Res.	47.8	50.6	50.8	58.0	5	3.0	No Impact
R350	1	Res.	47.7	50.7	50.9	58.0	5	3.2	No Impact
R351	1	Res.	46.1	49.1	49.3	58.0	5	3.2	No Impact
R352	1	Res.	46.5	49.4	49.6	58.0	5	3.1	No Impact
R353	1	Res.	54.0	56.3	56.4	58.0	5	2.4	No Impact
R354	1	Res.	52.7	55.1	55.2	58.0	5	2.5	No Impact
R355	1	Res.	50.3	53.3	53.6	58.0	5	3.3	No Impact
R356	1	Res.	48.7	51.8	52.0	58.0	5	3.3	No Impact
R357	1	Res.	69.9	70.8	71.1	58.0	5	1.2	No Impact
R358	1	Res.	67.6	68.5	68.8	58.0	5	1.2	No Impact
R359	1	Res.	51.9	54.4	54.6	58.0	5	2.7	No Impact
R360	1	Res.	49.6	52.7	53.0	58.0	5	3.4	No Impact
R361	1	Res.	50.1	53.1	53.3	58.0	5	3.2	No Impact

Table C-1. Predicted Traffic-Noise Levels for All Receptors, CNEL dBA

Receptor	Receptor Group	Land Use[1]	CNEL (dBA)			Measured Ambient Noise Environment (CNEL)	Allowable Increase in Traffic-Noise Levels (dBA)	Increase in Traffic-Noise Levels (2023 Existing to 2050 Build)	Impact Status
			2023	2050					
			Existing	No Build	Build				
R362	1	Res.	50.4	53.3	53.5	58.0	5	3.1	No Impact
R363	1	Res.	49.5	52.6	52.8	58.0	5	3.3	No Impact
R364	1	Res.	50.2	53.3	53.6	58.0	5	3.4	No Impact
R365	1	Res.	50.8	53.8	54.0	58.0	5	3.2	No Impact
R366	1	Res.	51.0	54.0	54.3	58.0	5	3.3	No Impact
R367	1	Res.	50.6	53.5	53.7	58.0	5	3.1	No Impact
R368	1	Res.	50.5	53.3	53.6	58.0	5	3.1	No Impact
R369	1	Res.	48.3	51.2	51.4	58.0	5	3.1	No Impact
R370	1	Res.	50.7	53.5	53.8	58.0	5	3.1	No Impact
R371	1	Res.	48.9	52.0	52.3	58.0	5	3.4	No Impact
R372	1	Res.	49.6	52.5	52.8	58.0	5	3.2	No Impact
R373	1	Res.	49.7	52.6	52.9	58.0	5	3.2	No Impact
R374	1	Res.	46.8	49.9	50.2	58.0	5	3.4	No Impact
R375	1	Res.	47.6	50.6	50.8	58.0	5	3.2	No Impact
R376	1	Res.	51.9	54.6	54.8	58.0	5	2.9	No Impact
R377	1	Res.	48.3	51.4	51.6	58.0	5	3.3	No Impact
R378	1	Res.	48.8	51.8	52.1	58.0	5	3.3	No Impact
R379	1	Res.	50.4	53.3	53.5	58.0	5	3.1	No Impact
R380	1	Res.	54.4	56.7	57.0	58.0	5	2.6	No Impact
R381	1	Res.	69.2	70.5	70.8	58.0	5	1.6	No Impact
R382	1	Res.	69.7	71.1	71.3	58.0	5	1.6	No Impact
R383	1	Res.	63.5	64.6	64.9	58.0	5	1.4	No Impact
R384	1	Res.	50.7	53.2	53.4	58.0	5	2.7	No Impact
R385	1	Res.	68.4	69.7	70.0	58.0	5	1.6	No Impact

Table C-1. Predicted Traffic-Noise Levels for All Receptors, CNEL dBA

Receptor	Receptor Group	Land Use[1]	CNEL (dBA)			Measured Ambient Noise Environment (CNEL)	Allowable Increase in Traffic-Noise Levels (dBA)	Increase in Traffic-Noise Levels (2023 Existing to 2050 Build)	Impact Status
			2023	2050					
			Existing	No Build	Build				
R386	1	Res.	69.1	70.4	70.7	58.0	5	1.6	No Impact
R387	1	Res.	67.8	68.8	69.1	58.0	5	1.3	No Impact
R388	1	Res.	67.7	68.7	68.9	58.0	5	1.2	No Impact
R389	1	Res.	45.6	48.6	48.9	58.0	5	3.3	No Impact
R390	1	Res.	49.9	52.6	52.8	58.0	5	2.9	No Impact
R391	1	Res.	49.3	52.2	52.4	58.0	5	3.1	No Impact
R392	1	Res.	51.2	53.0	53.2	58.0	5	2.0	No Impact
R393	1	Res.	51.0	53.9	54.1	58.0	5	3.1	No Impact
R394	1	Res.	50.6	53.7	53.9	58.0	5	3.3	No Impact
R395	1	Res.	50.3	53.3	53.5	58.0	5	3.2	No Impact
R396	1	Res.	49.4	52.6	52.8	58.0	5	3.4	No Impact
R397	1	Res.	47.4	50.4	50.7	58.0	5	3.3	No Impact
R398	1	Res.	47.8	50.8	51.1	58.0	5	3.3	No Impact
R399	1	Res.	49.6	52.6	52.8	58.0	5	3.2	No Impact
R400	1	Res.	48.1	51.1	51.3	58.0	5	3.2	No Impact
R401	1	Res.	46.3	49.2	49.5	58.0	5	3.2	No Impact
R402	4	Res.	68.5	72.8	73.3	59.0	5	4.8	No Impact
R403	4	Res.	64.9	69.4	69.9	59.0	5	5.0	No Impact
R404	4	Res.	63.4	67.5	68.0	59.0	5	4.6	No Impact
R405	4	Res.	60.6	63.8	64.4	59.0	5	3.8	No Impact
R406	4	Res.	56.9	59.1	59.7	59.0	5	2.8	No Impact
R407	4	Res.	57.8	59.7	60.2	59.0	5	2.4	No Impact
R408	4	Res.	55.9	58.1	58.6	59.0	5	2.7	No Impact
R409	4	Res.	54.5	57.3	57.8	59.0	5	3.3	No Impact

Table C-1. Predicted Traffic-Noise Levels for All Receptors, CNEL dBA

Receptor	Receptor Group	Land Use[1]	CNEL (dBA)			Measured Ambient Noise Environment (CNEL)	Allowable Increase in Traffic-Noise Levels (dBA)	Increase in Traffic-Noise Levels (2023 Existing to 2050 Build)	Impact Status
			2023	2050					
			Existing	No Build	Build				
R410	4	Res.	53.6	56.5	57.0	59.0	5	3.4	No Impact
R411	4	Res.	50.8	53.6	54.2	59.0	5	3.4	No Impact
R412	4	Res.	51.5	54.4	54.9	59.0	5	3.4	No Impact
R413	4	Res.	48.0	50.9	51.5	59.0	5	3.5	No Impact
R414	6	Res.	49.8	53.0	53.8	58.0	5	4.0	No Impact
R415	6	Res.	52.4	55.5	56.4	58.0	5	4.0	No Impact
R416	6	Res.	45.4	48.0	48.6	58.0	5	3.2	No Impact
R417b	6	Rec.	56.7	59.4	60.1	58.0	5	3.4	No Impact
R417a	6	Res.	53.9	55.5	56.2	58.0	5	2.3	No Impact
R418	6	Res.	51.5	54.4	55.2	58.0	5	3.7	No Impact
R419	6	Res.	56.3	60.1	60.9	58.0	5	4.6	No Impact
R420	2	Rec.	68.5	72.3	72.7	58.0	5	4.2	No Impact
R421	2	Int.	66.2	70.5	70.9	58.0	5	4.7	No Impact
R422	3	Rec.	47.5	49.9	50.3	59.0	5	2.8	No Impact
R423	1	Res.	55.0	60.4	60.6	58.0	5	5.6	Impact
R424	1	Res.	48.7	52.8	53.3	58.0	5	4.6	No Impact
R425	1	Res.	51.4	55.6	55.7	58.0	5	4.3	No Impact
R426a	1	Rec.	50.0	52.8	53.1	58.0	5	3.1	No Impact
R426b	1	Rec.	70.6	73.5	73.7	58.0	5	3.1	No Impact
R427	2	Res.	41.3	44.4	44.7	58.0	5	3.4	No Impact
R428	2	Res.	51.5	53.4	53.9	58.0	5	2.4	No Impact
R429	2	Res.	54.3	58.8	59.2	58.0	5	4.9	No Impact
R430	2	Res.	50.4	52.6	53.0	58.0	5	2.6	No Impact
R431	2	Res.	53.7	58.1	58.6	58.0	5	4.9	No Impact

Table C-1. Predicted Traffic-Noise Levels for All Receptors, CNEL dBA

Receptor	Receptor Group	Land Use[1]	CNEL (dBA)			Measured Ambient Noise Environment (CNEL)	Allowable Increase in Traffic-Noise Levels (dBA)	Increase in Traffic-Noise Levels (2023 Existing to 2050 Build)	Impact Status
			2023	2050					
			Existing	No Build	Build				
R432	2	Res.	49.2	51.5	51.9	58.0	5	2.7	No Impact
R433	2	Res.	53.0	57.2	57.7	58.0	5	4.7	No Impact
R434	2	Res.	49.0	51.3	51.7	58.0	5	2.7	No Impact
R435	2	Res.	52.8	56.9	57.3	58.0	5	4.5	No Impact
R436	2	Res.	46.7	48.9	49.3	58.0	5	2.6	No Impact
R437	2	Res.	50.4	54.0	54.3	58.0	5	3.9	No Impact
R438	2	Res.	46.7	49.0	49.4	58.0	5	2.7	No Impact
R439	2	Res.	50.7	54.0	54.3	58.0	5	3.6	No Impact
R440	2	Res.	48.1	51.3	51.6	58.0	5	3.5	No Impact
R441	2	Res.	43.5	46.8	47.1	58.0	5	3.6	No Impact
R442	2	Res.	47.3	50.2	50.5	58.0	5	3.2	No Impact
R443	2	Res.	48.8	51.7	52.0	58.0	5	3.2	No Impact
R444	2	Res.	48.7	51.5	51.8	58.0	5	3.1	No Impact
R445	2	Res.	42.1	45.9	46.2	58.0	5	4.1	No Impact
R446	2	Res.	42.7	46.0	46.4	58.0	5	3.7	No Impact
R447	2	Res.	42.7	45.9	46.3	58.0	5	3.6	No Impact
R448	2	Res.	42.8	46.5	46.9	58.0	5	4.1	No Impact
R449	4	Rec.	57.3	60.3	60.8	59.0	5	3.5	No Impact
R450	4	Rec.	60.2	63.3	63.7	59.0	5	3.5	No Impact
R451	4	Rec.	57.0	59.8	60.3	59.0	5	3.3	No Impact
R452	4	Rec.	54.7	57.6	58.2	59.0	5	3.5	No Impact
R453	4	Rec.	55.6	58.2	58.9	59.0	5	3.3	No Impact
R454	4	Rec.	65.0	69.4	70.0	59.0	5	5.0	No Impact
R455	4	Rec.	51.2	54.4	55.2	59.0	5	4.0	No Impact

Table C-1. Predicted Traffic-Noise Levels for All Receptors, CNEL dBA

Receptor	Receptor Group	Land Use[1]	CNEL (dBA)			Measured Ambient Noise Environment (CNEL)	Allowable Increase in Traffic-Noise Levels (dBA)	Increase in Traffic-Noise Levels (2023 Existing to 2050 Build)	Impact Status
			2023	2050					
			Existing	No Build	Build				
R456	3	Rec.	48.5	50.9	52.0	59.0	5	3.5	No Impact
R457	3	Rec.	47.1	49.7	50.2	59.0	5	3.1	No Impact
R458	3	Rec.	50.1	52.6	52.9	59.0	5	2.8	No Impact
R459	3	Rec.	63.2	68.0	68.5	59.0	5	5.3	Impact
R460	3	Rec.	61.9	66.3	66.9	59.0	5	5.0	No Impact
R461	3	Rec.	56.6	58.9	59.6	59.0	5	3.0	No Impact
R462	3	Rec.	72.8	75.0	75.6	59.0	5	2.8	No Impact
R463	3	Rec.	63.1	67.5	67.9	59.0	5	4.8	No Impact
R464	3	Rec.	59.3	63.3	63.8	59.0	5	4.5	No Impact
R465	3	Rec.	56.0	59.6	59.9	59.0	5	3.9	No Impact
R466	3	Rec.	52.6	55.8	55.9	59.0	5	3.3	No Impact
R467	3	Rec.	50.3	53.6	53.2	59.0	5	2.9	No Impact
R468	3	Rec.	48.7	51.8	51.0	59.0	5	2.3	No Impact
R469	3	Rec.	48.2	51.1	50.1	59.0	5	1.9	No Impact
R470	3	Rec.	48.4	50.9	50.1	59.0	5	1.7	No Impact
R471	3	Rec.	50.1	52.7	52.7	59.0	5	2.6	No Impact
R472	3	Rec.	52.7	55.4	55.4	59.0	5	2.7	No Impact
R473	3	Rec.	55.3	57.9	58.3	59.0	5	3.0	No Impact
R474	3	Rec.	59.1	62.4	63.2	59.0	5	4.1	No Impact
R475	3	Rec.	67.2	70.7	71.6	59.0	5	4.4	No Impact

1-"Res." = Residential; "Rec." = Recreational; "Int" = Institutional; "Com." = Commercial.

Source: HMMH, 2024.