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SUMNER EARLY LEARNING CENTER AND ATHLETIC FIELD UPGRADE

UPDATED NOISE STUDY

RAMBOLL ENVIRON

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1. INTRODUCTION

This Noise Study has been updated to reflect changes to the proposal, including a new site access, relocation of the track and field, and revised District operating procedures for community use at the site. This report documents the noise analysis performed by Ramboll Environ US Corporation (Ramboll Environ) as part of the environmental review of Sumner School District's proposed Early Learning Center (ELC) and Athletic Field Upgrade Project. The ELC portion of the Project would be constructed on the campus of the existing Sumner Middle School, located on Willow Street in Sumner, Washington. The nearest neighboring residential properties to the new ELC are adjacent to the western property boundary. The athletic field upgrades would include the installation of synthetic turf and rubberized track to the field in the southeast corner of the site and reorientation of several other athletic fields.

The analysis of the new ELC considered potential noise impacts at residences near the proposed project during the peak arrival and departure hours. Noise sources included vehicles traveling on on-site roadways, a chiller, and an emergency generator. The analysis of the athletic field upgrades considered potential noise impacts from athletic activities occurring during potential expanded use of the turf field.

The following report reviews noise terminology, regulatory criteria applicable to the project, and the methods and findings of the analysis.

2. NOISE LEVEL TERMINOLOGY AND HUMAN HEARING

The human ear responds to a very wide range of sound intensities. The decibel scale (dB) used to describe sound is a logarithmic rating system which accounts for the large differences in audible sound intensities. This scale accounts for the human perception of a doubling of loudness as an increase of 10 dB. Therefore, a 70-dB sound level will sound about twice as loud as a 60-dB sound level. People generally cannot detect differences of 1 dB; in ideal laboratory situations, differences of 2 or 3 dB can be detected by people, but such a change probably would not be detectable in an average outdoor environment. A 5-dB change would probably be perceived under normal listening conditions.

When addressing the effects of noise on people, it is useful to consider the frequency response of the human ear. Sound-measuring instruments are therefore often programmed to weight measured sounds based on the way people hear. The frequency-weighting most often used is A-weighting because it approximates the frequency response of human hearing and is highly correlated to the effects of noise on people. Measurements from instruments using this system are reported in "A-weighted decibels" or dBA. All sound levels in this evaluation are reported in A-weighted decibels.

Distance from the source, the frequency of the sound, the absorbency of the intervening ground, obstructions, and duration of the noise-producing event all affect the transmission and perception of noise. The degree of this effect also depends on who is listening and on existing sound levels.

3. AFFECTED ENVIRONMENT

3.1 Sumner Noise Regulations

The project site and surrounding property are located in the City of Sumner, Washington. As such, the sound level limits established in the Sumner Municipal Code (SMC) are applicable to this project and found in SMC Chapter 8.14, *Noise Control*. SMC 8.14.050 establishes limits on sounds crossing property boundaries based on the EDNA, or Environmental Designation for Noise Abatement, of the sound source and the receiving properties. Section 8.14.060 of the SMC defines the EDNAs A, B, and C as generally conforming to zoning designations for residential, commercial/office/institutional, and industrial uses, respectively.

The applicable noise limits for each district source and receiver combination are listed in Table 1.

Table 1: City Maximum Permissible Sound Levels (dBA)

EDNA of Sound Source	EDNA of Receiving Property		
	Class A Day / Night	EDNA B	EDNA C
EDNA A	55 / 45	57	60
EDNA B	57 / 47	60	65
EDNA C	60 / 50	65	70

The limitations for noise received in a Class A EDNA are reduced by 10 dBA during nighttime hours, defined as between 10 PM and 7 AM.

Source: SMC 8.14.050

The "maximum permissible" environmental noise levels in Table 1 may be exceeded for short periods as defined in WAC 173-60-040 (adopted by reference in SMC 8.14.050). The allowed short-term increases are as follows: 5 dBA for no more than 15 minutes in any hour, or 10 dBA for no more than 5 minutes of any hour, or 15 dBA for no more than 1.5 minutes of any hour. These allowed short-term increases can be described in terms of noise "metrics" that represent the percentage of time certain levels are exceeded. For example, the hourly L_{25} metric represents the sound level that is exceeded 25 percent of the time, or 15 minutes in an hour. Similarly, the $L_{8.3}$ and $L_{2.5}$ are the sound levels exceeded 5 and 1.5

minutes in an hour, respectively. The maximum permissible levels are not to be exceeded by more than 15 dBA at any time, and this limit is represented by the L_{max} noise metric.

3.2 Land Uses and Zoning

The proposed ELC and turf field would be located on the existing Sumner Middle School site on property zoned Low Density Residential 12000 (LDR-12). Adjacent residential properties surrounding the site are zoned Low Density Residential 6000 (LDR-6). Both the school site and surrounding receiving properties would be characterized as Class A EDNAs, based on the zoning of the properties.

The applicable noise limits for a Class A EDNA noise source affecting a Class A receiver are 55 dBA during daytime hours (7 AM to 10 PM) and 45 dBA during nighttime hours (10 PM to 7 AM). Allowable short-term increases to the above levels are as described previously.

3.3 Existing Sound Levels

In September 2016, Ramboll Environ measured day-long sound levels in the vicinity of the proposed school and turf field. Measurements were taken at three locations on September 14 and 15, 2016 to determine noise levels representative of existing conditions at nearby residences or potential future residences. Measurements were taken near the western boundary (SLM1), the southwestern boundary (SLM2), and the southeastern boundary (SLM3) using Larson Davis Class 1 sound level meters (Model LxT). The meters had been factory certified within the previous 12 months and were field calibrated immediately prior to the measurements. The microphones of the meters were fitted with wind screens and set approximately 5 feet above the ground (at a typical listening height).

The measured sound levels are summarized in **Table 2**, and the sound level measurement locations are depicted in **Figure 1**. Details of hourly sound level measurements are found in Appendix A.

Table 2: Measured Existing Sound Levels (dBA)

Location	Time of Day [a]	Range of Hourly Sound Levels (dBA) [b]					
		L_{eq}	L_{25}	$L_{8.3}$	$L_{2.5}$	L_{max}	L_{90}
SLM1	Day	52 - 56	52 - 56	54 - 58	57 - 61	65 - 78	48 - 53
	Night	46 - 55	47 - 55	48 - 56	50 - 58	60 - 74	43 - 52
	AM Arrival	54	54	56	58	70	51
	PM Departure	55	55	57	60	72	51
	6 to 7 AM	55	55	56	58	64	52
	School Day	52 - 55	52 - 55	54 - 57	57 - 61	65 - 72	48 - 51
SLM2	Day	55 - 67	56 - 65	57 - 72	58 - 76	64 - 87	52 - 57
	Night	48 - 57	49 - 58	51 - 59	52 - 60	60 - 75	44 - 55
	AM Arrival	56	57	58	59	70	54
	PM Departure	67	65	72	76	87	56
	6 to 7 AM	57	58	59	60	63	55
	School Day	55 - 67	56 - 65	57 - 72	58 - 76	64 - 87	52 - 56
SLM3	Day	57 - 60	58 - 60	59 - 62	60 - 64	65 - 78	54 - 58
	Night	50 - 59	51 - 60	53 - 61	54 - 61	59 - 78	46 - 57
	AM Arrival	59	59	60	61	75	56
	PM Departure	59	59	60	61	71	57
	6 to 7 AM	59	60	61	61	64	57
	School Day	57 - 59	58 - 59	59 - 60	60 - 61	65 - 71	55 - 57

[a] "Day" refers to the hours between 7 AM and 10 PM, "Night" to the hours between 10 PM and 7 AM, “AM Arrival“ to 8 to 9 AM, and School Day” refers to the potential operating hours of the school, expected to fall between 7 AM and 4 PM.

[b] The Leq is the "energy-averaged" sound level. The Lmax is the-highest measured sound level. The L90 is the sound level exceeded 90% of the time and is often considered representative of the background sound level. The L2.5, L8.3, and L25 levels are defined previously in this report in the discussion of the regulatory noise limits.

These measurements were taken from September 14 to 15, 2016.

Traffic on Highway 410 was the most consistent, dominant noise source. Other noise sources included school-related noises, dogs, birds, and traffic on local roads.

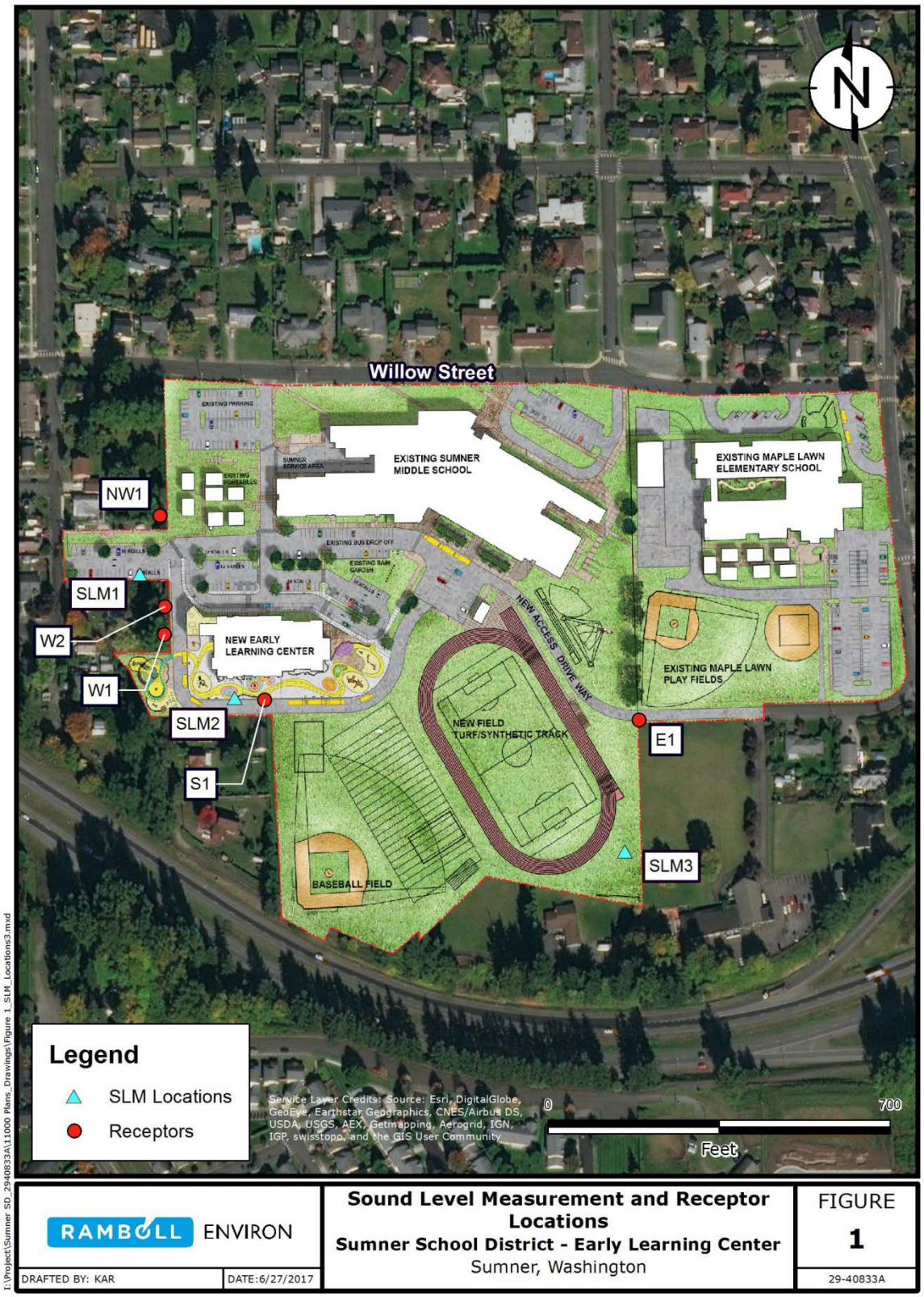

Figure 1. Sound Level Measurement and Model Receptor Locations

4. OPERATIONAL NOISE IMPACT

4.1 Noise Sources

Potential sources of traffic noise associated with the ELC include buses and vehicles traveling on-site to drop-off or pick-up children. Potential stationary sources include a chiller and an emergency generator that would be located in an equipment yard on the west side of the new ELC building. The primary noise sources associated with the upgraded turf field are athletic events. These noise sources are described more completely below.

4.1.1 On-Site Traffic

On-site traffic would include school buses and parents and staff vehicles accessing and traveling on the site.

Most noise from on-site traffic would be emitted by school buses arriving at the site to drop off children at the ELC for the morning and afternoon sessions and departing from the site after conclusion of the midday or afternoon sessions. Buses would arrive at the site via the New Gault Access and would travel clockwise around the ELC southern bus loop. Upon arrival at the preschool or kindergarten bus drop-off zones, the buses, according to the School District's operating procedure, would turn off their engines and remain on site until the midday or afternoon departure. Up to four (4) small buses and six (6) full-size buses would be expected to arrive in the morning.

At midday, up to four (4) buses could be used to transport the half-day students home and bring afternoon students to the school. Afternoon departure could consist of up to ten buses departing with students. This assessment was completed under the assumption that the morning arrivals would occur between 8 and 9 AM, midday arrivals and departures would occur between 11 AM and noon, and the afternoon departures would occur between 3 and 4 PM. For the purposes of this analysis, the morning arrival period and afternoon departure periods were evaluated because they represent peak levels of activity.

In addition to the buses identified above, new staff and parent traffic volumes associated with the ELC were provided by the project's traffic consultant, Transpo Group, in their Transportation Impact Analysis (TIA) for the project. The TIA indicates that the ELC would generate approximately 90 vehicles entering and 84 vehicles departing the school site from the existing Willow Street access during the morning arrival peak hour. Similarly, approximately 60 ELC-related vehicles would enter and 74 vehicles depart during the afternoon dismissal peak hour.

4.1.2 Cooling System

An air-cooled chiller is proposed to provide cooling for the new ELC building. The chiller proposed is a TRANE 60-ton unit with an estimated sound level of 62 dBA at 30 feet.

The chiller would be located in the equipment yard on the west side of the ELC building, and the equipment yard would be enclosed by a solid, approximately 8-foot high wall with a solid gate.

In compliance with the School District's Energy Use Policy, the chiller would be set to achieve occupied temperature no earlier than 60 minutes prior to occupied time and for an hour after the ELC is closed. With a start time of 8:35 AM, operation of the chiller is expected to occur primarily during daytime hours (i.e., between 7 AM and 10 PM). However, we also assessed chiller noise during nighttime hours (i.e., before 7 AM) to be conservative.

4.1.3 Emergency Generator

A 100 kilowatt emergency generator is proposed to provide power to the ELC building during a power outage. The sound level used in the analysis was based on a Cummins 100DSGAA generator housed in a sound-attenuated aluminum enclosure and using a Level 3 exhaust muffler (i.e., an F233 configuration). The generator would emit a sound level of approximately 63 dBA at 50 feet.

As with the chiller, the emergency generator would be located in the equipment yard on the west side of the ELC building.

As noted, the primary purpose of the generator would be to provide power to the ELC during a power outage. However, the generator would be tested/operated occasionally (e.g., once a month) for up to an hour to ensure that it remains in good working condition. Testing would be limited to daytime hours only. Although noise from emergency operation of the generator would be exempt from the noise limits, noise from testing of the generator would be subject to the daytime noise limits identified earlier in this report (see Section 3.1).

4.1.4 Athletic Field Upgrade

In addition to the new ELC project, the school district is also proposing to install synthetic turf and a rubberized track on the existing middle school field in the southeast corner of the site and reorient it and other nearby fields. Although the proposed improvements are unlikely to change the types and levels of noise emitted from the existing activities on the field, it could expand the potential use of these activities. Therefore, this analysis includes a brief assessment of turf field noise at potential new residences located to the east of, and adjacent to, the soccer field.

The school sports fields will be used primarily for youth school and adult recreational sports consistent with the School District's standard operating procedures and historical programming. Sports field use would produce intermittent noise during some portions of the day rather than on a constant basis.

Sound level measurements of an ultimate frisbee tournament were used to represent athletic event noises on the turf field. The tournament consisted of six games being played (with approximately 84 participants) and numerous spectators. Based upon typical anticipated usage, the tournament sound level represents a conservative estimate of most turf field activities. The sound level used for this analysis was an L_{25} of 55 dBA at 100 feet.

4.2 Analysis Methods

Noise modeling of on-site sources (bus and car traffic, cooling equipment, generator testing, and turf field games) was completed using the CadnaA noise model. CadnaA is a computer tool that calculates sound levels after considering the noise reductions or enhancements caused by distance, topography, varying ground surfaces, atmospheric absorption, and meteorological conditions. For point sources of noise, such as the chiller and emergency generator, the model uses algorithms that comply with the international standards in ISO-9613-2:1996. For traffic noise emissions, the CadnaA model used for this analysis is equipped with the US Federal Highway Administration (FHWA) Traffic Noise Model (TNM) standard.

The modeling process includes the following steps: (1) characterizing the noise sources, (2) creating 3-dimensional maps of the site and vicinity to enable the model to evaluate effects of distance and topography on noise attenuation, and (3) assigning equipment and activity sound levels to appropriate locations on the site. CadnaA then constructs topographic cross sections to calculate sound levels in the vicinity of a project site.

The noise model included proposed 6-foot high solid fences along the eastern and southern boundaries of the residential property due west of the ELC building and along the northern boundary of the residential property due south of the ELC. The model also included the solid wall (expected to be at least 8-feet high) proposed to be constructed around the equipment yard on the west side of the ELC building.

4.3 Noise Assessment Results

4.3.1 Compliance of On-Site Sources with Noise Limits

Model-calculated results of the morning arrivals, afternoon departures, daytime chiller and generator testing, nighttime chiller operations, and daytime athletic games are presented in **Table 3**.

Table 3: Calculated Sound Levels of On-site Sources (Leq, dBA)

Receptor	AM Arrival [a]	PM Departure [a]	Chiller / Generator [b]	Nighttime Chiller [c]	Turf Field Game [d]	Noise Limit [e]
W1	48	53	43	42	22	55/45
W2	445	54	49	43	20	55/45
NW1	45	50	45	36	32	55/45
S1	52	51	26	17	37	55/45
E1	53	53	14	4	42	55/45

Notes:

[a] The AM Arrival and PM Departure scenarios assumed that 4 small buses and 6 full-size buses would either arrive or depart in a one-hour period. These scenarios also include operation of the chiller. These events would occur after 7 AM and would be subject to the *daytime* noise limit.

[b] This scenario assumes operation of the chiller concurrent with an hour of generator testing. Generator testing would occur during daytime hours only, and this event would be subject to the *daytime* noise limit.

[c] The chiller could occasionally, begin operation prior to 7 AM. Therefore, we considered compliance of the chiller operation with the *nighttime* noise limit.

[d] These activities are limited through District policy and natural lighting to daytime hours and would be subject to the *daytime* noise limit.

[e] The noise limits shown are for daytime/nighttime hours. Daytime hours are from 7 AM to 10 PM. Nighttime hours are from 10 PM to 7 AM.

Source: Ramboll Environ

As shown in Table 3, none of the scenarios are expected to exceed the applicable noise limits.

4.3.2 Increases Over Existing Noise Levels From Project Sources

In addition to evaluating the potential compliance of on-site sources with the noise limits, Ramboll Environ considered potential noise impacts caused by project-related increases over existing background sound levels. Potential project-related increases during AM Arrival and PM Departure are displayed in Table 4. Increases from equipment operations (during hours with no arrival or departure) or from turf field activities are displayed in Table 5.

As shown in Table 4 and Table 5, the noise from the proposed ELC and upgraded athletic fields are expected to result in increases ranging from 0 to 2 dBA. Increases of 0 to 2 dBA would be expected to result in minimal impacts.

Table 4: Sound Level Increases: AM Arrival and PM Departure (Leq, dBA)

Receptor / SLM		AM Arrival				PM Departure			
		Existing	Project [a]	Total [b]	Increase	Existing	Project [a]	Total [b]	Increase
W1	SLM1	54	48	55	1	55	53	57	2
W2		54	45	54	1	55	54	57	2
NW1		54	45	54	1	55	50	56	1
S1/SLM2		56	52	57	1	67	51	67	0
E1/SLM3		59	53	60	1	59	53	60	1

Notes:

The above values are rounded to the whole number, and apparent calculation errors are due to the rounding.

[a] Model-calculated sound levels of the new project-related sources.

[b] Total sound levels (i.e., the existing measured levels plus project-related levels).

Source: Ramboll Environ

Table 5. Sound Level Increases: Equipment and Turf Field (Leq, dBA)

Receptor / SLM		Chiller / Generator				Chiller Only (6 to 7 AM)				Turf Field Activities			
		Existing	Project [a]	Total [b]	Increase	Existing	Project [a]	Total [b]	Increase	Existing	Project [a]	Total [b]	Increase
W1	SLM1	52	43	53	1	55	42	55	0	52	22	52	0
W2		52	49	54	2	55	43	55	0	52	20	52	0
NW1		52	45	53	1	55	36	55	0	52	32	52	0
S1/SLM2		55	26	55	0	57	17	57	0	55	37	55	0
E1/SLM3		57	14	57	0	59	4	59	0	57	42	57	0

Notes:

The above values are rounded to the whole number, and apparent calculation errors are due to the rounding.

[a] Model-calculated sound levels of the new project-related sources.

[b] Total sound levels (i.e., the existing measured levels plus project-related levels).

Source: Ramboll Environ

5. CONCLUSIONS

The proposed Sumner School District ELC would introduce new noise sources to the surrounding environment, including on-site traffic, a chiller unit, and an emergency generator. In addition, installation of synthetic turf on the middle school athletic field could result in more games being played.

Noise from on-site traffic sources during the AM arrival and PM departure is expected to comply with the noise limits applicable during daytime hours. In addition, noise from on-site traffic would result in increases of between 0 and 2 dBA at the nearest properties, resulting in a minimal potential for noise impacts.

Noise from operation of the chiller between 6 and 7 AM is expected to comply with the nighttime noise limit and result in virtually no increase over the existing sound levels. Operation of the chiller in conjunction with testing of the emergency generator during daytime hours is expected to comply with the noise limits, Chiller and generator operation could result in an increase of between 0 and 2 dBA at the nearest residential properties during the infrequent generator testing, resulting in minimal potential for noise impacts.

Athletic games on the turf field are expected to easily comply with the daytime noise limits.

In summary, the project is not expected to result in substantial noise impacts.

APPENDIX A: SOUND LEVEL MEASUREMENT DATA

Table A- 1. Measured Sound Levels at SLM1 (dBA)

Date	Time	L_{eq}	L_{25}	$L_{8.3}$	$L_{2.5}$	L_{max}	L_{90}
2016/09/14	16:00:00	54.0	54.1	55.6	58.5	70.6	51.0
2016/09/14	17:00:00	55.3	55.1	56.7	59.1	78.0	52.1
2016/09/14	18:00:00	54.9	55.6	56.6	57.7	68.9	52.7
2016/09/14	19:00:00	55.8	55.9	58.2	60.3	74.1	52.7
2016/09/14	20:00:00	54.1	54.0	55.6	58.4	72.7	50.8
2016/09/14	21:00:00	52.9	52.9	55.3	57.5	74.5	49.1
2016/09/14	22:00:00	51.5	51.9	54.2	56.2	65.4	48.5
2016/09/14	23:00:00	51.4	50.7	52.6	57.1	73.5	47.3
2016/09/15	00:00:00	49.1	49.4	51.0	53.3	62.1	46.3
2016/09/15	01:00:00	46.0	46.7	48.3	49.6	62.3	42.7
2016/09/15	02:00:00	47.8	47.2	48.7	51.4	73.2	44.0
2016/09/15	03:00:00	49.8	50.3	52.3	54.8	62.6	46.1
2016/09/15	04:00:00	51.0	51.7	52.7	53.7	62.4	49.0
2016/09/15	05:00:00	52.2	52.9	54.0	55.0	59.6	50.1
2016/09/15	06:00:00	54.5	55.1	56.4	58.0	63.6	52.3
2016/09/15	07:00:00	55.5	55.0	56.6	59.2	73.0	52.9
2016/09/15	08:00:00	53.7	53.8	55.8	58.4	69.6	50.5
2016/09/15	09:00:00	53.6	52.6	56.9	61.1	72.2	48.8
2016/09/15	10:00:00	52.2	52.4	55.2	58.1	66.5	48.0
2016/09/15	11:00:00	52.6	53.2	54.9	57.1	64.5	49.1
2016/09/15	12:00:00	52.9	53.2	54.8	56.9	72.4	49.5
2016/09/15	13:00:00	52.6	52.3	54.1	57.1	71.7	48.7
2016/09/15	14:00:00	53.1	52.8	55.3	59.0	71.9	49.3
2016/09/15	15:00:00	55.0	55.2	57.2	59.7	71.9	51.3

Table A- 2. Measured Sound Levels at SLM2 (dBA)

Date	Time	L_{eq}	L_{25}	$L_{8.3}$	$L_{2.5}$	L_{max}	L_{90}
2016/09/14	16:00:00	58.1	58.8	60.2	61.6	74.2	55.2
2016/09/14	17:00:00	61.3	60.3	63.4	67.9	84.9	56.4
2016/09/14	18:00:00	62.4	61.6	65.2	69.2	84.1	56.9
2016/09/14	19:00:00	59.7	60.3	61.7	63.3	75.7	56.7
2016/09/14	20:00:00	57.9	58.5	60.2	62.1	71.0	54.8
2016/09/14	21:00:00	56.8	57.4	59.3	61.0	75.6	52.5
2016/09/14	22:00:00	54.9	55.4	57.5	59.5	73.6	51.0
2016/09/14	23:00:00	53.9	53.8	55.9	59.1	75.5	48.9
2016/09/15	00:00:00	50.7	51.5	53.2	54.5	64.0	47.5
2016/09/15	01:00:00	48.2	49.2	51.0	52.2	60.2	44.3
2016/09/15	02:00:00	50.8	49.9	51.6	54.9	74.5	45.8
2016/09/15	03:00:00	52.1	52.8	54.9	57.3	64.7	47.7
2016/09/15	04:00:00	54.0	54.8	56.1	57.0	62.9	51.4
2016/09/15	05:00:00	55.1	56.0	57.0	57.7	63.8	52.6
2016/09/15	06:00:00	57.2	57.9	58.9	59.8	63.3	55.0
2016/09/15	07:00:00	57.5	57.7	58.6	59.8	71.1	55.7
2016/09/15	08:00:00	55.9	56.6	57.6	58.6	69.8	53.6
2016/09/15	09:00:00	55.2	55.8	56.9	58.0	70.3	52.9
2016/09/15	10:00:00	55.3	56.0	57.5	58.8	67.1	52.1
2016/09/15	11:00:00	55.7	56.5	57.7	58.7	65.8	53.1
2016/09/15	12:00:00	56.0	56.9	58.0	59.0	64.4	53.4
2016/09/15	13:00:00	55.8	56.6	57.8	58.8	65.9	53.1
2016/09/15	14:00:00	55.7	56.5	57.6	58.6	67.2	53.0
2016/09/15	15:00:00	67.4	65.0	72.0	75.8	86.8	55.5

Table A- 3. Measured Sound Levels at SLM3 (dBA)

Date	Time	L_{eq}	L_{25}	$L_{8.3}$	$L_{2.5}$	L_{max}	L_{90}
2016/09/14	16:00:00	58.4	59.0	59.8	60.6	72.7	56.6
2016/09/14	17:00:00	59.2	59.7	60.5	61.4	74.5	57.6
2016/09/14	18:00:00	59.2	59.8	60.6	61.3	70.7	57.3
2016/09/14	19:00:00	59.2	59.5	60.7	62.3	73.6	57.2
2016/09/14	20:00:00	58.0	58.4	59.5	61.0	70.1	55.8
2016/09/14	21:00:00	56.7	57.5	58.6	59.8	72.1	53.8
2016/09/14	22:00:00	55.5	56.1	57.5	58.9	72.4	52.3
2016/09/14	23:00:00	54.5	54.8	56.3	58.5	75.3	50.6
2016/09/15	00:00:00	52.4	53.4	54.9	56.1	63.6	48.9
2016/09/15	01:00:00	50.0	51.1	52.7	54.0	58.7	46.2
2016/09/15	02:00:00	53.6	52.3	54.4	58.3	77.9	47.6
2016/09/15	03:00:00	54.5	54.6	56.5	59.7	74.0	50.0
2016/09/15	04:00:00	56.0	56.6	57.8	58.7	66.5	53.6
2016/09/15	05:00:00	56.9	57.7	58.6	59.4	68.9	54.3
2016/09/15	06:00:00	58.9	59.8	60.6	61.3	64.0	56.6
2016/09/15	07:00:00	60.2	60.2	61.7	64.2	78.5	57.8
2016/09/15	08:00:00	58.7	59.3	60.3	61.2	75.3	56.4
2016/09/15	09:00:00	57.4	58.0	58.9	60.0	68.7	55.1
2016/09/15	10:00:00	56.9	57.6	58.6	59.8	70.4	54.5
2016/09/15	11:00:00	57.4	58.1	59.1	59.8	65.1	55.2
2016/09/15	12:00:00	57.7	58.3	59.3	60.5	68.7	55.5
2016/09/15	13:00:00	57.5	58.3	59.2	60.1	68.3	55.3
2016/09/15	14:00:00	57.5	58.1	59.1	60.3	70.6	55.1
2016/09/15	15:00:00	58.6	59.1	60.1	61.2	70.9	56.5