



Noise Assessment Update

Ashton Keynes Anaerobic Digestion Facility, Wiltshire

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Basis of Report

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Abstract

This report is an updated noise assessment for the Acorn Bioenergy Limited proposed Anaerobic Digestion (AD) facility at Ashton Keynes, Wiltshire. The predicted specific sound levels are higher than set out in SLR's March 2023 Noise Report: a difference attributed to adopting the 2024 version of the ISO 9613 calculation standard.

This Noise Assessment Update ultimately concluded a low impact for both daytime and night-time operations. With the numerical day time assessment indicating a low impact. While the numerical night-time results initially indicated an adverse impact (with an exceedance of up to 11dBA over the background level), this finding was superseded by BS 4142 contextual guidance. Considering the context, the absolute level of the predicted noise is considered low (maximum 36 dB L_{Aeq} at the facade, or ≤ 23 dB L_{Aeq} internally) and its imperceptible character within the existing sound environment mean no adverse effect is anticipated. It is therefore concluded that noise from the construction and operation of the AD facility should not present a constraint to planning permission.



1.0 Introduction

In February 2022, SLR Consulting Limited (SLR) was appointed by Acorn Bioenergy Limited, (the Applicant), to prepare a Noise Assessment to accompany a planning application (PL/2023/03359) for the proposed Anaerobic Digestion (AD) Plant at land off Ashton Road, southeast of South Cerney, Ashton Keynes, Wiltshire SN6 6QT ('the Site').

The aim of this updated Noise Assessment is to consider the updated design of the Proposed Development as amended by the October 2024 Design Changes and the 2025 Design Refinements now proposed.

The conclusions of the March 2023 Noise Assessment have been reviewed to identify whether there has been any material change in the 2023 assessment findings as a result of the updated design.

The assessment is based on the results of a noise survey carried out at locations representative of the nearest noise-sensitive receptors (NSRs) to the Site over representative daytime and night-time periods.

The following assessment is presented:

- An assessment undertaken to BS 4142:2014+A1:2019 *Methods for rating and assessing industrial and commercial sound*; and
- Assessment of impact following national planning guidance.

The report is structured as follows:

- Site and Development Description.
- Consultation and Guidance.
- Baseline Noise Survey Results.
- BS 4142 Assessment.
- Predicted Impacts and Planning.
- Conclusions.

Whilst reasonable effort has been made to make this report easily understandable, it is technical in nature, therefore, to assist the reader, a glossary of terminology is included in **Appendix A**.



2.0 Site and Development Description

2.1 Existing Site

The Site comprises a parcel of agricultural land bounded to the west, north and south by agricultural land and to the east by the Ashton Road with agricultural land beyond.

The wider area to the south, east and west of the Site is predominantly agricultural land, small scattered residential clusters and inland lakes utilised for recreation as part of the associated Cotswolds Lakes. The village of Ashton Keynes is located approximately 1.8km to the south-east.

The closest residential receptors are c.500m to the south-west within the Cotswold Community area buildings (and approximately 400m north at Ashton Road).

The location of the Site is shown in Figure 2-1 with the red line boundary showing the approximate application site boundary.

Figure 2-1: Site Location



2.2 Proposed Development

The Proposed Development comprises of the:

‘Erection of anaerobic digestion (AD) facility, comprising silage clamps, digester tanks, lagoons, administrative buildings, landscaping and access’

The Proposed Development is located at land off Ashton Road, southeast of South Cerney, Ashton Keynes, Wiltshire, SN6 6QT (“the Site”). The Application has been under consideration by Wiltshire Council as Local Planning Authority (LPA) since May 2023.

The total Site area is approximately 7ha. The Proposed Development would accept in the region of 91,000 tonnes per annum of feedstock from local farms. The feedstock material would undergo a process of controlled decomposition (anaerobic digestion) within the proposed facility. The process produces bi methane (biogas) which would be stored on Site prior to being transported by tanker to a central gas injection point. Two important by-products of the bi methane gas generation process comprise a natural digestate fertiliser for use on local farm land, and a high-grade CO₂ gas for use in food and beverage, healthcare, construction and other industrial end users.

The proposed updated site layout design is shown in Drawing No 29419/P2/101 Sheets 1 and 2, dated July 2024 provided in **Appendix B**.



3.0 Consultation and Guidance

3.1 Consultation

The following consultation has been received from the Environmental Health Officer with regards to a submitted noise assessment for the application:

“The noise report by SLR (ref: 404.11923.00004_0019) has been read and findings noted. I have outstanding concerns regarding the elevated noise levels above background noise levels with this proposal. Although it is appreciated background levels are low, I would expect to see provision of mitigation to achieve a rating level closer to background levels.

With any permission granted, the following condition is recommended in respect to amenity of nearby residents during the construction phases of the development:

No construction or demolition work shall take place on Sundays or Public Holidays or outside the hours of 08:00 to 18:00 Monday to Friday and 08:00 to 13:00 on Saturdays.

Reason: Core policy 57, Ensuring high design and place shaping such that appropriate levels of amenity are achievable”.

With regards to the previously submitted Noise Assessment the night-time rating levels were as follows:

- 5dBA above the baseline background sound level at Downs Cottage.
- 7dBA above the baseline background sound level at the Cotswold Community, now known as Kings Water.

Relevant sections of Council Guidance and British Standards have been detailed below.

3.2 Wiltshire Council – Wiltshire Core Strategy 2015

The Wiltshire Core Strategy Development Plan Document ('the plan') was formally adopted on 20 January 2015. The plan provides a positive and flexible overarching planning policy framework for Wiltshire for the period up to 2026.

It is noted that Core Policy 42 in relation to renewable energy schemes requires proposals to demonstrate how impacts on various factors including noise, have been satisfactorily assessed, including any cumulative effects.

There are no known formal local policy guidance documents in relation to industrial noise; this assessment has therefore been based on standard industry guidance for assessment of industrial noise impact (BS 4142 methodology) as acknowledged in the above correspondence, and national planning guidance.

Wiltshire Local Plan Pre-Submission Draft 2020-2038 (Reg 19) September 2023:

The emerging Wiltshire Local Plan was submitted to the Secretary of State for Housing Communities and Local Government for independent examination on 28th November 2024. Once adopted, this will replace the current out-of-date Wiltshire Core Strategy 2015. The policies of the emerging plan carry significant weight up until the point of adoption.

Policy 98 states:

‘Ensuring high quality design and place shaping’ which states that “A high standard of design is required in all new developments, including extensions, alterations, and changes of use of existing buildings. This will be achieved through: viii) the inclusion of tree-lined streets and taking the opportunities to include trees elsewhere in developments i.e., parks, orchards, integrated with sustainable drainage systems; viii . having regard to the compatibility of existing land and building



uses in the vicinity of the proposed development, the impact of the development on the amenities of existing occupants, and ensuring that appropriate levels of amenity are achievable within the development itself, including the consideration of vehicle parking, access and movement, internal and external space standards, private outdoor space, waste storage and collection, privacy, overshadowing, mass and height (overbearing), vibration, and pollution (e.g. light intrusion, noise (including vibration), smoke, odour, fumes, effluent, waste or litter)..."

Policy 91 states:

'Conserving and enhancing Wiltshire's landscapes states that "Development will conserve and where possible enhance Wiltshire's landscapes by: 6). be located and designed to prevent erosion of relative tranquillity (light pollution and noise) and intrinsically dark landscapes, and use opportunities to enhance areas in which tranquillity have been eroded'. Policy 86 refers to renewable energy and states that proposals will need to protect "k). the amenity of local residents, including noise, odour, visual amenity and safety".

3.3 National Planning Policy Framework

The National Planning Policy Framework (NPPF) was introduced by The Department for Communities and Local Government in March 2012, with its latest revision dated February 2025.

The NPPF defines the Government's planning policies for England and sets out the framework, within which local authorities must prepare their local and neighbourhood plans, reflecting the needs and priorities of their communities. The Government's stated purpose in producing the NPPF was to streamline policy, so the planning process is less restrictive, to give a more easily understood framework for delivering sustainable development.

Under the heading of conserving and enhancing the natural environment and Paragraph 187 e), one aim of the NPPF is *"preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of ... noise pollution..."*.

The NPPF acknowledges that there is a host of existing sources of national and international guidance which can be used, in conjunction with the Framework, to inform the production of Local Plans and decision making.

3.4 Noise Policy Statement for England

The Noise Policy Statement for England (NPSE) was published in March 2010. It sets out the long-term vision of government noise policy, which is fundamentally to: *"Promote good health and good quality of life through the effective management and control of noise within the context of Government policy on sustainable development"*. The vision is supported by three key aims:

- Avoid significant adverse impacts on health and quality of life;
- Mitigate and reduce to a minimum, other adverse impacts on health; and
- Where possible, contribute to the improvement of health and quality of life.

The NPSE should apply to all forms of noise including environmental noise, neighbour noise and neighbourhood noise but does not apply to noise in the workplace. The NPSE has adopted the following concepts, to help consider whether noise is likely to have "significant adverse" or "adverse" effects on health and quality of life:

SOAEL – Significant Observed Adverse Effect Level. This is the level above which significant adverse effects on health and quality of life occur.

LOAEL – Lowest Observed Adverse Effect Level. This is the level above which adverse effects on health and quality of life can be detected.



NOEL – No Observed Effect Level. This is the level below which no effect can be detected. In simple terms, below this level, there is no detectable effect on health and quality of life due to the noise.

“It is not possible to have a single objective noise-based measure that defines SOAEL that is applicable to all sources of noise in all situations. Consequently, the SOAEL is likely to be different for different noise sources, for different receptors and at different times. It is acknowledged that further research is required to increase our understanding of what may constitute a significant adverse impact on health and quality of life from noise. However, not having specific SOAEL values in the NPSE provides the necessary policy flexibility until further evidence and suitable guidance is available” (Defra, 2010).

3.5 National Planning Practice Guidance

Revised Planning Practice Guidance was released in March 2014 to support the NPPF and last updated in July 2019. The Guidance stipulates that local planning authorities’ plan making and decision making should take account of the acoustic environment and in doing so consider:

- Whether or not a significant adverse effect is occurring or likely to occur;
- Whether or not an adverse effect is occurring or likely to occur; and
- Whether or not a good standard of amenity can be achieved.

The guidance has also provided the following noise exposure hierarchy table, describing “*when noise could be a concern*”.

Table 3-1: Planning Practice Guidance Noise Exposure Hierarchy

Response	Example of Outcomes	Increasing Effect Level	Action
NOEL – No observed effect level			
Not present	No effect	No Observed Effect Level	No specific measures required
No observed adverse effect level			
Present and not intrusive	Noise can be heard but does not cause any change in behavior or attitude. Can slightly affect the acoustic character of the area but not such that there is a perceived change in the quality of life.	No Observed Adverse Effect	No specific measures required
LOAEL – Lowest Observed Adverse Effect Level			
Present and intrusive	Noise can be heard and causes small changes in behavior and/or attitude, e.g. turning up volume of television; speaking more loudly; where there is no alternative ventilation, having to close windows for some of the time because of the noise. Potential for sleep disturbance. Affects acoustic character of the area and creates a perceived change in quality of life.	Observed Adverse Effect	Mitigate and reduce to a minimum
SOAEL – Significant Observed Adverse Effect Level			



Response	Example of Outcomes	Increasing Effect Level	Action
Present and disruptive	The noise causes a material change in behavior and/or attitude, e.g. avoiding certain activities during periods of intrusion; where there is no alternative ventilation, having to keep windows closed most of the time because of the noise. Potential for sleep disturbance resulting in difficulty in getting to sleep, premature awakening and difficulty in getting back to sleep. Quality of life diminished due to change in acoustic character of the area.	Significant Observed Adverse Effect	Avoid
Present and very disruptive	Extensive and regular changes in behavior and/or an inability to mitigate effect of noise leading to psychological stress or physiological effects, e.g. regular sleep deprivation/awakening; loss of appetite, significant, medically definable harm, e.g. auditory and non-auditory	Unacceptable Adverse Effect	Prevent

3.6 British Standard BS 4142:2014 +A1:2019

The British Standard BS 4142:2014 +A1:2019 Methods for Rating and Assessing Industrial and Commercial Sound (BS 4142) notably describes methods for rating and assessing sound of an industrial or commercial nature. It has been referenced where required in policy and guidance documents to assess the potential impact of sound of an industrial and/or commercial nature, at existing and proposed noise-sensitive receptor locations within the context of the existing sound environment.

Certain acoustic features can increase the significance of impact from a comparison of the specific sound level to the background sound level where these features are likely to affect perception and response. Where such features are present at the assessment location, a character correction (or penalty) to the specific sound level is made to obtain the rating level. This can be approached from subjective, objective and reference methods.

- **Tonality:** A correction of 0 dB to + 6 dB for sound ranging from not tonal to prominently tonal.
- **Impulsivity:** A correction of up to + 9 dB can be applied for sound that is impulsive.
- **Intermittency:** A penalty of + 3 dB can be applied if on/off conditions are readily distinctive within the reference time interval over the period of the greatest amount of on-time.
- **Other characteristics:** A penalty of + 3 dB can be applied in the absence of all other defined characteristics, where the specific sound contains a distinctive feature in the residual acoustic environment.
- The rating sound level is equal to the specific sound level if there are no acoustic features present or expected to be present.

The significance of sound depends upon both the margin by which the rating level exceeds the background sound level and the context in which the sound occurs. An initial estimate of the impact of the specific sound is made by subtracting the measured background sound level from the rating level.

- Typically, the greater the difference, the greater the magnitude of the impact;
- A difference of around + 10 dB or more is likely to be an indication of a significant adverse impact, depending on the context;
- A difference of around + 5 dB is likely to be an indication of an adverse impact, depending on the context; and



- The lower the rating level is relative to the measured background sound level, the less likely it is that the specific sound source will have an adverse impact or a significant adverse impact. It is an indication that the specific sound source has a low impact, depending on the context.

To account for the acoustic character of proposed sound sources, BS4142:2014+A1:2019 provides the following with respect to the application of penalties to account for *“the subjective prominence of the character of the specific sound at the noise-sensitive locations and the extent to which such acoustically distinguishing characteristics will attract attention”*.

Tonality – *“For sound ranging from not tonal to predominantly tonal the Joint Nordic Method gives a correction of between 0dB and +6dB for tonality. Subjectively, this can be converted to a penalty of 2dB for a tone which is just perceptible at the noise receptor, 4dB where it is clearly perceptible and 6dB where it is highly perceptible;*

Impulsivity – *A correction of up to +9dB can be applied for sound that is highly impulsive, considering both the rapidity of the change in sound level and the overall change in sound level. Subjectively, this can be converted to a penalty of 3dB for impulsivity which is just perceptible at the noise receptor, 6dB where it is clearly perceptible, and 9dB where it is highly perceptible;*

Intermittency – *When the specific sound has identifiable on/off conditions, the specific sound level ought to be representative of the time period of length equal to the reference time interval which contains the greatest total amount of on time. If the intermittency is readily distinctive against the residual acoustic environment, a penalty of 3dB can be applied; and*

Other Sound Characteristics – *Where the specific sound features characteristics that are neither tonal nor impulsive, though otherwise are readily distinctive against the residual acoustic environment, a penalty of 3dB can be applied.”*

BS 4142 stipulates that context is important when assessing the impact of sound of a commercial and/or industrial nature. Amongst a range of advocated considerations, this can include mitigation, residual sound levels, location and absolute sound levels in the consideration of context.

The scope of BS 4142 recognises that human response to sound can be subjective as affected by many factors, both acoustic and non-acoustic. The significance of its impact can depend on various factors such as the exceedance to the background level, its absolute level, time of day and change in environment, as well as local attitudes to the source of sound and character of the neighbourhood.



4.0 Baseline Survey Results

4.1 Survey Date

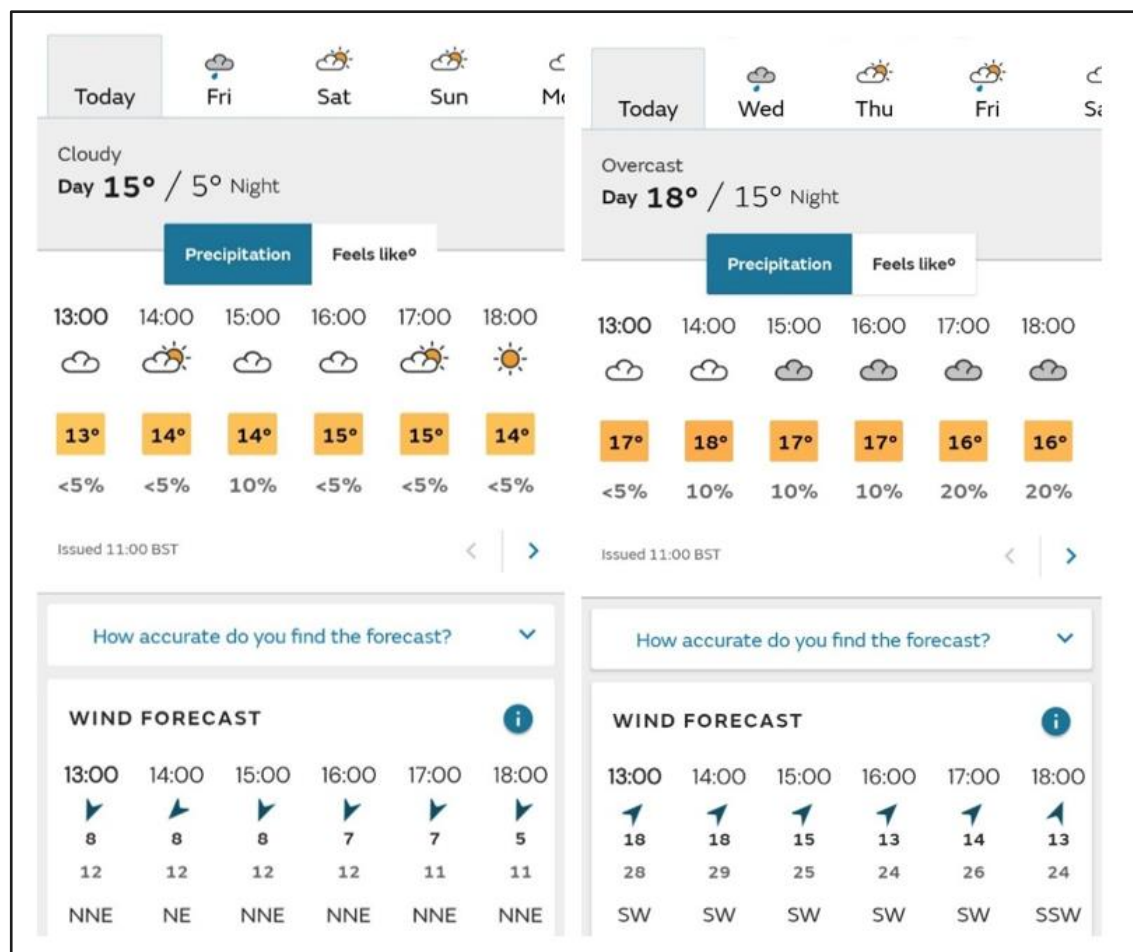
To determine baseline sound levels in the vicinity of the Site, a noise survey was undertaken between Thursday 29th September and Tuesday 4th October 2022. Although the data is three years old, it is still considered valid for determining baseline sound levels.

4.2 Weather Conditions

Weather conditions and forecast were noted as suitable for the majority of noise monitoring work; the measured wind speed was noted at less than 5 m/s during site attendance. The Met Office forecast was captured as shown in Figure 4-1 below; chance of rain predicted for Friday otherwise notably dry conditions.

It has not been deemed necessary to exclude any data due to adverse weather conditions when establishing the baseline climate over the full monitoring duration. Any weather affected data would be removed through analysis of the representative baseline background, with any data elevated by wind and/or rain, exceeding the representative value selected.

Figure 4-1: Weather Forecast



4.3 Equipment

The noise survey equipment used during the survey is detailed in Table 4-1. All measurement instrumentation was calibrated before and after the measurements. No significant drift was observed. The calibration chain is traceable via the United Kingdom Accreditation Service to National Standards held at the National Physical Laboratory.

Table 4-1: Survey Equipment

Location	Equipment	Serial Number
Location 1	Norsonic Nor140 Class 1 Sound Level Meter	1403010
	Norsonic 1251 Acoustic Calibrator	31875
Location 2	Cirrus CR:171B Class 1 Sound Level Meter	G080284
	Cirrus CR:515 Acoustic Calibrator	59336

4.4 Noise-Sensitive Receptors

The nearest Noise-Sensitive Receptors (NSRs) have been identified as follows.

- NSR 1 – Downs Cottage nominally 450 m to the north of the Site is a residential dwelling off Ashton Road.
- NSR 2 – Kings water, nominally 600 m south-west of the Site.



4.5 Survey Locations

Sound levels were measured at two locations as shown on Figure 4-2. Photographs of each monitoring position are provided in **Appendix C**.

Figure 4-2: Monitoring Locations and Noise-Sensitive Receptors



At the survey locations, the microphone was placed 1.5m above the local ground level in free-field conditions, i.e. at least 3.5m from the nearest vertical, reflecting surface.

The following noise level indices were recorded:

- $L_{Aeq,T}$: The A-weighted equivalent continuous noise level over the measurement period.



- LA90: The A-weighted noise level exceeded for 90% of the measurement period. This parameter is often used to describe background noise.
- LA10: The A-weighted noise level exceeded for 10% of the measurement period. This parameter is often use to describe road traffic noise.
- L_{Amax}: The maximum A-weighted noise level during the measurement period.

4.6 Sound Climate

The sound climate has been described based on observations from the site survey at Locations 1 and 2:

- Location 1: Dominated by local road traffic along Ashton Road. Distant road traffic, high altitude aircraft and birdsong was also noted as influencing the measurement position.
- Location 2: Sounds influencing the measurement position included distant road traffic, high altitude aircraft and birdsong.



4.7 Baseline Sound Level Results

A summary of the survey results at Location One is shown in Table 4-2. The full survey results are in **Appendix D**.

Table 4-2: Location 1 - Summary of Measured Sound Levels, free-field, dB

Date	Period	L _{Aeq,T}	L _{A90, 15min} (median)	L _{A10,15min} (median)	L _{Amax(f)} (range)
29/09/22 – 30/02/22	Daytime (12:15 – 23:00)	58	39	63	67 – 88
	Night-Time (23:00 – 07:00)	50	32	37	39 – 76
30/09/22 – 01/10/22	Daytime (07:00 – 23:00)	66	47	66	70 – 104*
	Night-Time (23:00 – 07:00)	48	30	44	38 – 78
01/09/22 – 02/10/22	Daytime (07:00 – 23:00)	57	40	60	68 – 88
	Night-Time (23:00 – 07:00)	45	28	36	39 – 78
02/09/22 – 03/10/22	Daytime(07:00 – 23:00)	55	34	55	67 – 93
	Night-Time (23:00 – 07:00)	49	31	37	41 – 79
03/09/22 – 04/10/22	Daytime(07:00 – 23:00)	58	40	62	68 – 84
	Night-Time (23:00 – 07:00)	49	26	36	37 – 76
04/10/22	Daytime(07:00 – 12:00)	59	46	63	71 – 87
*Increased measured levels due to unknown anomalous activity 17:00 – 21:00, 30/09/2022					

A summary of the survey results at Location Two is shown in Table 4-3. The full survey results are in **Appendix D**.



Table 4-3: Location 2 - Summary of Measured Sound Levels, free-field, dB

Date	Period	L _{Aeq,T}	L _{A90, 15min} (median)	L _{A10,15min} (median)	L _{Amax} (range)
29/09/22 – 30/02/22	Daytime (13:00 – 23:00)	43	36	43	46 – 78
	Night-Time (23:00 – 07:00)	36	31	37	39 – 65
30/09/22 – 01/10/22	Daytime (07:00 – 23:00)	48	43	50	47 – 76
	Night-Time (23:00 – 07:00)	34	28	35	35 – 59
01/09/22 – 02/10/22	Daytime (07:00 – 23:00)	46	41	47	49 – 74
	Night-Time (23:00 – 07:00)	35	22	34	37 – 68
02/09/22 – 03/10/22	Daytime(07:00 – 23:00)	42	33	42	44 – 72
	Night-Time (23:00 – 07:00)	41	31	40	38 – 68
03/09/22 – 04/10/22	Daytime(07:00 – 23:00)	46	39	47	44 – 75
	Night-Time (23:00 – 07:00)	37	22	32	34 – 73

4.8 Baseline Background Sound Levels to use in the Assessment

Histograms of the daytime and night-time baseline background sound levels can be seen in **Appendix E**. From analysis of the histogram sound level data, the following representative background sound levels have been used in the BS 4142 numerical assessment for each noise-sensitive receptor location.

Table 4-4: Baseline Background Sound Levels for Assessment

Monitoring Location	NSR	Period	L _{A90, 15 min} (range)	L _{A90,15 min} (selected*)
Location 1	Downs Cottage	Daytime (07:00 – 23:00)	26 – 59	35
		Night-Time (23:00 – 07:00)	22 – 41	30
Location 2	Cotswold Community	Daytime (07:00 – 23:00)	21 – 49	33
		Night-Time (23:00 – 07:00)	20 – 44	28*

* The representative noise level has been selected at a time when residents may be attempting to sleep.



In accordance with BS 4142, the uncertainty associated with the measured baseline sound levels has been considered and described in the statement of uncertainty, set out in Section 5.8.



5.0 BS 4142 Assessment

The impact of the proposals upon the noise environment at the nearest Noise-Sensitive Receptors (NSRs) to the Site has been assessed based on a preliminary plant selection, as agreed with the client.

5.1 Noise Sources

The assessment has been based on the following equipment noise sources provided by the client.

Table 5-1: Plant Noise Sources

Noise source	Daytime operation (Yes/No)	Night-time operation (Yes/No)
Combined Heat and Power plant (2 no. CHP)	Yes	Yes
Chiller	Yes	Yes
Compressors 1 and 2	Yes	Yes
Biogas Upgrading and CO2 recovery unit	Yes	Yes
Extracting Station	Yes	Yes
Separation	Yes	Yes
16 no. Tank mixers	Yes	Yes
Straw Process Building	Yes	No
Grid Entry Unit	Yes	Yes
Pump Container	Yes	Yes
Pumps for heat system	Yes	Yes
Emergency Gas Flare	Yes	Yes
Boiler	Yes	Yes
Dozer to compact biomaterial into the clamps	Yes	No
Odour Abatement Stack / Air Abatement System	Yes	Yes
Telehandler	Yes	No

In addition to the above plant, heavy goods vehicle (HGV) movements have been included in the model based on up to 4 no. HGV movements during the 1-hour daytime assessment period and 1 no. HGV movements (as a worst-case) during the 15-minute night-time assessment period, for the purposes of BS 4142 assessment.

This has been based on initial traffic estimates provided by the client for average HGV movements including 3 no. daily biomethane gas or CO₂ tankers (which may occur during the day or night) and other feedstock / digestate deliveries typically occurring during daylight hours. Other agricultural traffic into the plant is understood to typically take place during daytime hours and has not been included in the noise model.



5.2 Noise Model Assumptions

The sound predictions in this assessment have been undertaken using a proprietary software-based noise model, CadnaA, which implements the full range of UK noise-based calculation methods. The calculation algorithms set out in ISO 9613-2:2024 Acoustics – Attenuation of sound during propagation outdoors – Part 2 General method of calculation have been used, and the model assumes:

- A ground absorption factor of 1 (soft ground).
- A reflection factor of 2.
- A daytime receiver height of 1.5m.
- A night-time receiver height of 4m.

The following assumptions and caveats must be acknowledged when considering the noise model and sound data used for assessment:

- The exact specification of the AD plant components may vary depending on the final supplier(s) selected.
- The CHP has been confirmed by the client as operating with a sound level of 65 dB (A-weighted) at 10 m; the stack has been modelled as a point source at 9 m high and 1 m above the chimney height with a sound power level of 93 dB(A).
- Motorised mixers in the model have been assumed as point noise sources external to the tank walls at high level. The final design may incorporate mixers located within a concrete roof, with reduced noise emissions.
- The process building construction has been assumed lightweight single ply metal.
- The following fixed plant items have been given a sound pressure level of nominally 85 dB (A-weighted) at 1 m as a likely worst-case as confirmed by the client. Actual noise emissions from these items may be lower.
 - Extracting station (potential alternative tanker with pump configuration would be low noise).
 - Grid Entry Unit.
 - Chiller.
 - Pumps for heat systems.
- All noise sources have been considered operating continuously and simultaneously for the proposed day and night-time plant operations described in Table 5-1, thereby tending toward a worst-case.

The noise levels of each item of plant used in the noise model are presented in Table 5-2 below. The lagoon is understood to be a passive system with no significant noise generating plant associated.



Table 5-2: Noise Sources – dB

Plant (No. of)	Description	31.5 Hz	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	LwA	hours / day
CHP (2)	Container	94.1	100.8	92.7	84.1	78.7	75.1	72.8	71.0	67.7	84	24
	Container Stack End	93.6	97.0	94.0	83.0	74.3	70.8	68.1	66.1	63.1	82	24
	Container Non-Stack End	92.5	92.0	84.6	76.8	74.0	73.7	69.7	69.2	71.3	79	24
	Cooling Fan	83.2	77.6	78.2	70.2	70.1	67.6	64.0	58.4	49.9	73	24
	Stack	-									93	24
Pumps (1)	Pumps for heat system	-									93	24
Pumps (1)	Pump container	-									94	24
Chiller (1)	Chiller unit	-									93	24
Compressor (2)	Biomethane compressor	-									90	24
Upgrade plant (1)	Biogas Upgrading and CO2 recovery unit	-									96	24
Extracting Station (1)	Digestate Separator	-									93	24
Separation (1)	Separation building. Modelled with a sound reduction of 24dB for single skin cladding.	-									80 ¹	24
Primary Digester Tank Mixers (18)	On top of concrete roof of tank. At edge. Reported sound power level includes 10 dB of attenuation which										78	24

¹ Internal reverberant calculated at 71.dBA with a surface area of 1303m²



Plant (No. of)	Description	31.5 Hz	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	LwA	hours / day
	is assumed to be provided by a bespoke acoustic shroud											
Secondary Digester Tank Mixer (4)	On top of concrete roof of tank. Nearer to centre. Reported sound power level includes 10 dB of attenuation which is assumed to be provided by a bespoke acoustic shroud.										88	24
Post digester tank mixers (4)	Wall mounted										86	24
Process Building (1)	Straw Process Building, conveyors (daytime only)					-					99	12
Gas Flare (1)	Occasional flare.					-					83	0.25
Boiler (1)	20 ft container next to CHP					-					89	2
Blower/Scrubber (3)	Ground level around Tanks					-					93	24
Mobile Equipment – Dozer (1)	Dozer to push and compact biomaterial into Clamps. 10 movements per hour (daytime only).					-					90	-
HGV	Site Entrance to Bays. 4 movements per hour daytime. 1 movement per 15-minutes at night.					-					95	-
Odour Abatement Stack / Air Abatement System	Stack emission pint located at 10.2m.										91	24



Plant (No. of)	Description	31.5 Hz	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	LwA	hours / day
Straw Processing Building (bale breaker, straw mill, straw extruder conveyors)	Straw building. Modelled with a sound reduction of 24dB for single skin cladding.										99 ²	Day
Telehandler	Straw Building Hard Standing Area. 10 movements per hour daytime.										95	Day

² Internal reverberant sound pressure level of 89dBA with a surface area 2064m².



5.3 Mitigation

The following embedded mitigation has been included in the Assessment:

- Plant to be installed with all proprietary attenuation / enclosures.
- CHP stack duct silencers.

5.4 Specific Sound Level

The cumulative predicted sound levels of the noise sources associated with the Proposed Development are shown in Table 5-3 below.

Daytime sound levels have been predicted at 1.5 m above local ground level, which is the approximate height of a ground floor window. Night-Time sound levels have been predicted at 4m above local ground level, which is the approximate height of a first-floor window.

Table 5-3: Predicted Specific Sound Levels - dB

Noise-Sensitive Receptor	Period	Predicted Sound Level, $L_{Aeq,T}$
NSR 1: Downs Cottage	Daytime	30
	Night-Time	34
NSR 2: Kingswater	Daytime	31
	Night-Time	36

A graphical image of the predicted specific sound level during the daytime can be seen in Figure 5-1. A graphical image of the predicted specific sound level during the night-time can be seen in Figure 5-2.



Figure 5-1: Specific Sound Level at a Grid Height of 1.5m – dB(A)



Figure 5-2: Night-Time Specific Sound Level at a Height of 4m – dB(A)



5.5 Character Correction

The character of each noise source, and the correction that have been applied in the BS 4142 assessment are as follows:

- **Tonality:** It is not known if tonality is likely to be attributable to the proposed preliminary plant selection. Where the overall level at the receptor has been predicted to be very low, it has been considered unlikely for tonality to be perceptible in the residual sound climate. Therefore, no penalty has been applied.
- **Impulsivity:** The noise sources are not known to exhibit significant impulsive characteristics based on well-maintained equipment.
- **Intermittency:** Although noise sources at the site may operate intermittently, it is understood that the process plant would generally operate continuously. No correction has been included in the assessment.
- Where the specific sound features characteristics that are neither tonal nor impulsive, nor intermittent, though otherwise are readily distinctive against the residual acoustic environment, a precautionary penalty of 3 dB can be applied for robust assessment tending towards a worst-case.

In total a precautionary +3 dB character correction has been added to the calculated specific sound level at each receptor.

5.6 BS 4142 Numerical Assessment

The character corrections described in Section 5.5 have been added to the predicted sound levels and the results of the BS4142 numerical assessment have been shown in Table 5-4 below for each receptor. In accordance with the Standard, the rating levels and the representative background sound levels have been rounded to the nearest decibel.

Based on the accuracy of the prediction methodology, i.e. ISO9613-2, the uncertainty of the CadnaA model accuracy, i.e. barrier corrections for buildings, etc., it is considered that the results of the assessment are as accurate as reasonably practicable and considered to be within +/-3dB.



Table 5-4: BS 4142 Assessment

Noise-Sensitive Receptor	Assessment	Predicted Specific Sound Level, $L_{Aeq,T}$	Predicted Rating Level, $L_{Ar,T}$	Derived Background Sound Level L_{A90}	Difference between Background Sound Level and Rating Level
NSR 1: Downs Cottage	Daytime (07:00 – 23:00)	31	34	35	-1
	Night-Time (23:00 – 07:00)	35	38	30	+8*
NSR 2: Kingswater	Daytime (07:00 – 23:00)	32	35	33	+2
	Night-Time (23:00 – 07:00)	36	39	28	+11*
*when the rating level and the background sound level are both very low, the absolute level may be more relevant to the assessment (especially at night), following BS 4142 guidance.					

Comparing the results to the 2023 Noise Report, , the specific sound levels have gone up, especially so at night. However, this is not due to the changes in the proposals, rather this is due to a function of the calculation algorithms used in the noise model. The 2023 version of the Report correctly applied the 1996 version of ISO9613 standard, whilst this update has correctly used the 2024 version of the Standard. It is known industry wide that the new standard has a lower barrier attenuation than the 1996 version, for this reason alone, the predicted specific sound levels have increased.

It can be seen from the numerical assessment in Table 5-4 above that:

- During the daytime, the predicted plant emissions rating level lies at no more than 2dBA above the representative background sound level. This is an indication of the sound source having a low impact. Whilst the levels are slightly higher than in the 2023 assessment the impact is still considered low.
- During the night-time, the plant emissions rating level has been predicted to be above the background sound level, in the order of 8dBA at Downs Cottage (previously 5dB(A)) and 11dB(A) at Kingswater (previously 7dB(A)).
- The predicted specific sound levels is low in absolute terms and these exceedances are due to very low background sound levels in a rural area at night. The level of impact must be considered in context, following BS 4142 guidance.
- Whilst it is acknowledged that the numerical assessment may not be compatible with the EHO's request for the rating levels to be nearer to the baseline background sound level, it must be acknowledged that the level of impact from noise emissions are dependent on contextual considerations when applying BS 4142 methodology, especially where background sound levels and the predicted emissions rating level are both low (see next section).



5.7 BS 4142 Assessment in Context

The concept of “context” has been notably emphasised in Section 11 of BS 4142 when considering numerical impacts established from applying the Standard. The following contextual considerations have been given to further inform the numerical assessment.

The numerical assessment during the daytime period has indicated a low impact, where the predicted noise emissions rating level does not exceed the background sound level significantly at the noise-sensitive receptors and based on an assessment tending towards a worst-case.

The industrial sound is not expected to have any adverse effect at the receptors and is expected to be largely unnoticeable during the daytime where the absolute emissions have been predicted to be very low and where the character of the sound source is not expected to be distinguishable in the residual sound climate. Contextual considerations have therefore been deemed to support the numerical assessment, concluding a low impact assessment during the daytime period.

The numerical assessment during the night-time period has indicated an adverse impact, subject to context, where the predicted noise emissions rating level has been predicted to exceed the background sound level at the noise-sensitive receptors. It is relevant to consider the absolute level of predicted plant emissions at the receptor when considering the night-time period. Notably from the BS 4142 standard it is stated:

“Where background sound levels and rating levels are low, absolute levels might be as, or more, relevant than the margin by which the rating level exceeds the background. This is especially true at night.”

The background sound levels are considered very low during the night period (i.e. ≤ 30 dB $L_{A90,T}$), and the plant specific level has been predicted to be very low (≤ 36 dB L_{Aeq} dB $_{\text{Tr}}$ and tending towards a worst-case). It is therefore relevant to consider the absolute level of noise emissions in context, following BS 4142 guidance.

During the night-time period, the cumulative plant emissions specific level has been predicted to be in the order of 36 dB L_{Aeq} dB at a first-floor receptor window. If considering residents choosing to sleep with windows open during the summer months, a level difference of around -13 dB would be expected inside the dwelling through a partially open window. An absolute emissions level of ≤ 23 dB $L_{Aeq,T}$ may be estimated inside the worst-affected receptor, which in absolute terms may be considered very low, or in the range of subjective inaudibility in the context of the residual sound climate.

The character of the development sound is considered of generally steady state broadband noise, in comparison to that of local and distant road traffic. The character of the source sound has been considered unlikely to be distinguishable at the receptors based on the low predicted emissions rating level and the level and character of the residual sound climate. The ambient sound level at the receptor is not predicted to subjectively increase noticeably as a result of the development³.

It has been acknowledged that the model and reference data are preliminary and where assumptions have been made, they have tended towards a worst-case prediction. Reasonable embedded mitigation measures have been assumed as part of the plant design including CHP stack attenuators.

It is acknowledged that when the background sound level is very low during the quietest periods of the night then there is potential for industrial sound to be perceptible in the

³ The cumulative L_{Aeq} would equal 39.3dBA (35dBA specific plus 37.4dBA baseline night-time average at location 2) which is just 1.9dBA above the average baseline night-time L_{Aeq} of 37.4dBA.



environment. The judgement can be made that noise may be perceptible at noise-sensitive receptors during the most sensitive parts of the night, but not to the extent that there is a perceived change in the quality of life. The introduction of industrial development may marginally affect the acoustic character of the area, but it should be considered that it does not necessarily constitute an adverse health effect.

Based on the above considerations, the numerical assessment for the night-time period of operation has been modified in context to conclude a low impact assessment.

5.8 Statement of Uncertainty

Uncertainty inevitably limits the accuracy associated with all steps of any noise assessment, including measurement, calculation, or prediction. Factors include, but are not limited to:

- The inherent accuracy limitation of methodology in Standards and guidance.
- Variability in meteorological conditions.
- The accuracy of sound source input data of a calculation.

It is imperative to minimise the uncertainty to a level commensurate with the intention of the assessment objective. Measures taken in this assessment to minimise uncertainty are:

- Baseline sound levels have been measured over a reasonably long period and therefore provide a good indication of representative background and residual sound levels.
- Measurements were undertaken using a suitable logging period considered to provide representative background sound levels.
- Sound level measurements were undertaken in accordance with recognised Standards, using a tall environmental windshield and were undertaken during reasonable weather conditions e.g. acceptably low wind speeds and no precipitation.
- A direct measurement location or appropriate proxy location was used and is considered to provide a representative basis for background noise levels at the nearest noise-sensitive receptor locations to the development.
- Field calibration checks were undertaken before and after measurements to record very low levels of equipment drift. Instrumentation was appropriate and in accordance with Section 5 of BS 4142:2014+A1:2019.
- Measurements were rounded to the nearest one decimal place before the final calculations.
- The calculations have been conservative as not to under-predict the resulting impacts.
- Noise model assumptions have been conservative so as not to under-predict the resultant levels, including unfavourable wind vector.

The aforementioned measures have been considered to reduce uncertainty to a level considered not to have any significance to the outcome of this assessment.



6.0 Predicted Noise Impacts and Planning

The evaluated noise impacts in this report should be considered by Wiltshire Council mindful of the National Planning Policy Framework and Noise Policy Statement for England, which currently define the policy and decision-making requirements for planning and noise.

The NPSE refers to established concepts from toxicology that are currently being applied to noise impacts and suggests that noise levels above the SOAEL should be avoided and that if noise levels fall between the LOAEL and SOAEL all reasonable steps should be taken to minimise and mitigate adverse effects while also considering the guiding principles of sustainable development. This does not mean that adverse effects cannot occur from a noise-generating development.

The range of noise impacts reviewed for the Proposed Development are deemed acceptable with respect to overarching requirements for planning and noise, where resulting impacts are anticipated around the NOAEL and the LOAEL threshold of the NPSE.

It is expected that the sound resulting from the Proposed Development would be largely unnoticeable at the noise-sensitive receptors. The development may marginally affect the acoustic character of the area during the most sensitive periods of the night-time of the proposed operation, but not to the extent that there is a perceived change in quality of life.

In accordance with overarching planning requirements, measures have been satisfactorily considered to “*mitigate and minimise adverse impacts on health and quality of life*” where all reasonable mitigation of plant including using proprietary attenuation measures, suitable enclosures, and CHP stack silencers, all of which have been embedded into the proposed design and accounted for in this assessment.



7.0 Summary and Conclusion

Acorn Bioenergy Limited has appointed SLR to undertake a noise assessment update for a proposed Anaerobic Digestion facility on land off Ashton Road, Ashton Keynes, Wiltshire, SN6 6QT.

The assessment has been based on the results of a noise survey carried out at locations representative of the nearest noise-sensitive receptors to the site over representative daytime and night-time periods.

The assessment has been presented in accordance with industry guidance BS 4142:2014+A1:2019 *Methods for rating and assessing industrial and commercial sound* and overarching national planning policy guidance.

It has been acknowledged that the noise model assumptions and provisional plant data represent a noise impact assessment tending towards a worst-case and which may change depending on the final plant supplier specification.

The report has found that:

- The numerical assessment during the daytime has concluded a low impact at the noise-sensitive receptors, where the emissions rating level resulting from the Proposed Development has been predicted to lie just 2dBA above or below the representative background sound level.
- The numerical assessment during the night-time has been modified in context to conclude a low impact at the noise-sensitive receptors, where the noise emissions resulting from the Proposed Development are expected to be largely unnoticeable because of the low absolute level of emissions, the character of the sound in the residual sound climate, and the predicted internal level of emissions inside the receptor.
- The impact from the Proposed Development has been considered in context in accordance with BS 4142 guidance; the contextual considerations have been shown to support an assessment of a low impact development.

It is concluded that noise should not present a constraint to the grant of planning permission. The likely acoustic effects have been established about the NOAEL and LOAEL thresholds of the NPSE, such that noise is not expected to cause any change in behaviour or attitude and will be largely unnoticeable at the noise-sensitive receptors. Mitigation has been included in the noise emissions predictions, to include proprietary plant equipment attenuation including CHP stack silencers.



8.0 Closure

The assessment has required a suitable level of technical ability and has been undertaken by a Suitably Qualified Person (SQP). An individual with all the following credentials has been considered a SQP for this assessment:

- Has a minimum of three years' verifiable experience (within the last five years) of providing noise impact assessments in planning. Such experience has clearly demonstrated a practical understanding of factors affecting acoustics in relation to the Proposed Development use and in the built environment in general, including acting in an advisory capacity to provide recommendations and design advice in planning, and;
- Holds a recognised acoustic qualification and membership of an appropriate professional body. The primary professional body for acoustics in the UK is the Institute of Acoustics.

This assessment has been led and managed by a SQP as defined above.

Where some elements of the assessment (e.g. measurements) have been carried out by an acoustician who does not meet the requirements above, this has been undertaken with the direct guidance and supervision of a SQP who has reviewed, agreed and overseen the measurement methodology and any results obtained.

The SQP confirms that the relevant measurements and calculations:

- Represent good industry practice in accordance with available guidance.
- Are appropriate given the development being assessed and scope of works proposed.
- Avoid invalid, biased and exaggerated claims.

The checker and author of this document confirm that they both comply with the definition of a SQP defined in this Section.

Regards,

SLR Consulting Limited

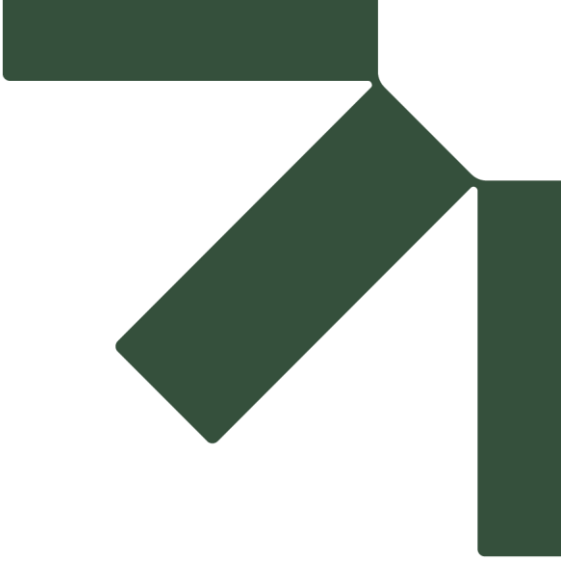
M Dawson

Michelle Dawson, MSc., BSc. (Hons) MIOA
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Associate Acoustic Consultant





Appendix A Glossary of Terminology

In order to assist the understanding of acoustic terminology and the relative change in noise, the following background information is provided.

The human ear can detect a very wide range of pressure fluctuations, which are perceived as sound. In order to express these fluctuations in a manageable way, a logarithmic scale called the decibel, or dB scale is used. The decibel scale typically ranges from 0dB (the threshold of hearing) to over 120dB. An indication of the range of sound levels commonly found in the environment is given in the following table.

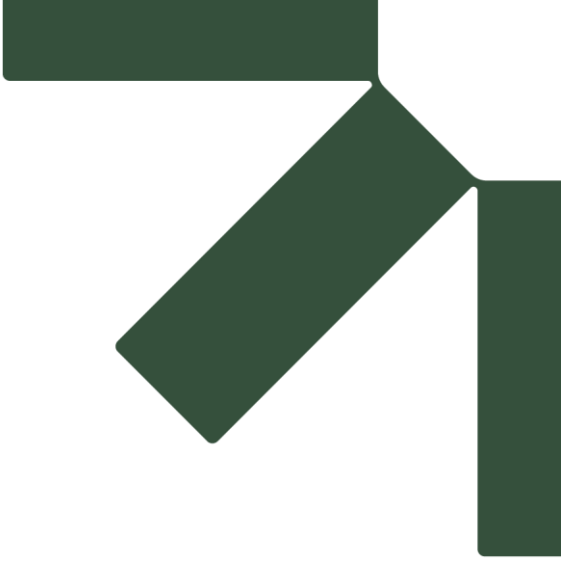
Table 1
Sound Levels Commonly Found in the Environment

Sound Level	Location
0dB(A)	Threshold of hearing
20 to 30dB(A)	Quiet bedroom at night
30 to 40dB(A)	Living room during the day
40 to 50dB(A)	Typical office
50 to 60dB(A)	Inside a car
60 to 70dB(A)	Typical high street
70 to 90dB(A)	Inside factory
100 to 110dB(A)	Burglar alarm at 1m away
110 to 130dB(A)	Jet aircraft on take off
140dB(A)	Threshold of Pain

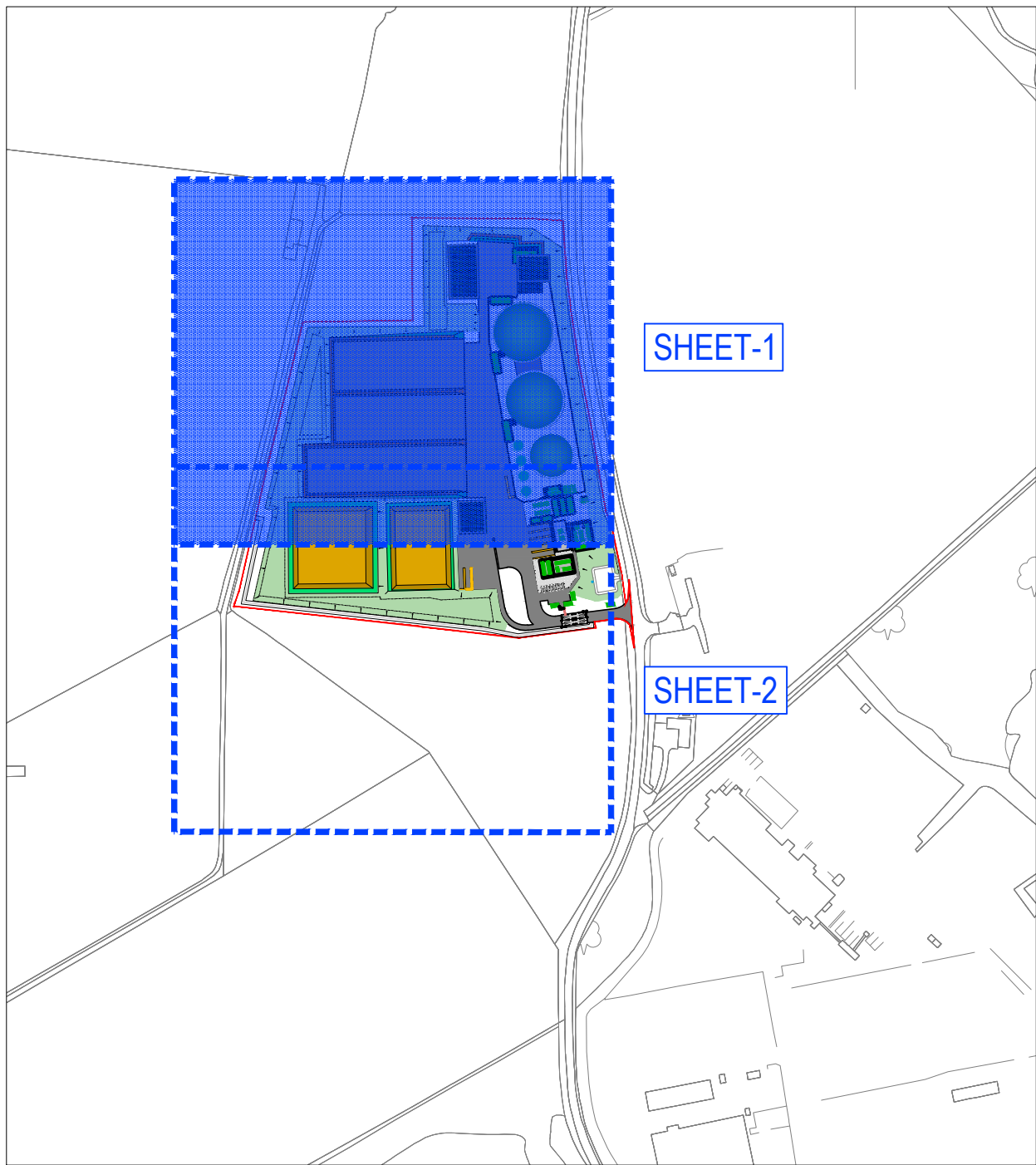
Acoustic Terminology

dB (decibel)	The scale on which sound pressure level is expressed. It is defined as 20 times the logarithm of the ratio between the root-mean-square pressure of the sound field and a reference pressure ($2 \times 10^{-5} \text{Pa}$).
dB(A)	A-weighted decibel. This is a measure of the overall level of sound across the audible spectrum with a frequency weighting (i.e. 'A' weighting) to compensate for the varying sensitivity of the human ear to sound at different frequencies.
L_{Aeq}	L_{Aeq} is defined as the notional steady sound level which, over a stated period of time, would contain the same amount of acoustical energy as the A - weighted fluctuating sound measured over that period.
L_{10} & L_{90}	If a non-steady noise is to be described it is necessary to know both its level and the degree of fluctuation. The L_n indices are used for this purpose, and the term refers to the level exceeded for n% of the time. Hence L_{10} is the level exceeded for 10% of the time and as such can be regarded as the 'average maximum level'. Similarly, L_{90} is the 'average minimum level' and is often used to describe the background noise. It is common practice to use the L_{10} index to describe traffic noise.
L_{Amax}	L_{Amax} is the maximum A - weighted sound pressure level recorded over the period stated. L_{Amax} is sometimes used in assessing environmental noise where occasional loud noises occur, which may have little effect on the overall L_{eq} noise level but will still affect the noise environment. Unless described otherwise, it is measured using the 'fast' sound level meter response.





Appendix B Site Plan



SITE LOCATION PLAN
Scale: 1:5000 @ A1



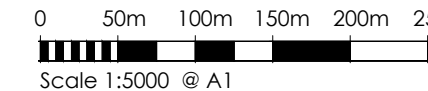
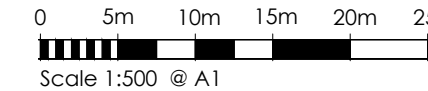
SITE PLAN
Scale: 1:500 @ A1

NOT FOR CONSTRUCTION

NOTES:-

1. All dimensions must be checked on site and not scaled from this drawing.
2. The Contractor shall make a survey of the site and shall be responsible for obtaining all dimensions and levels necessary for the proper fabrication of the structure as indicated.
3. All levels shown on this drawing are relative to Agreed Topographic survey
4. This drawing is to be read in conjunction with 29419/100 Series Drawings.
5. All existing invert levels are to be confirmed by contractor prior to construction. Connection subject to approval.

Site Red Line Boundary (7.06Ha)



P03	11/09/24	ISSUED FOR APPROVAL	ASP	JHC
P02	10/09/24	ISSUED FOR APPROVAL	WPD	JHC
P01	07/08/24	ISSUED FOR APPROVAL	JHC	JHC
Rev	Date	Description	DR	CH

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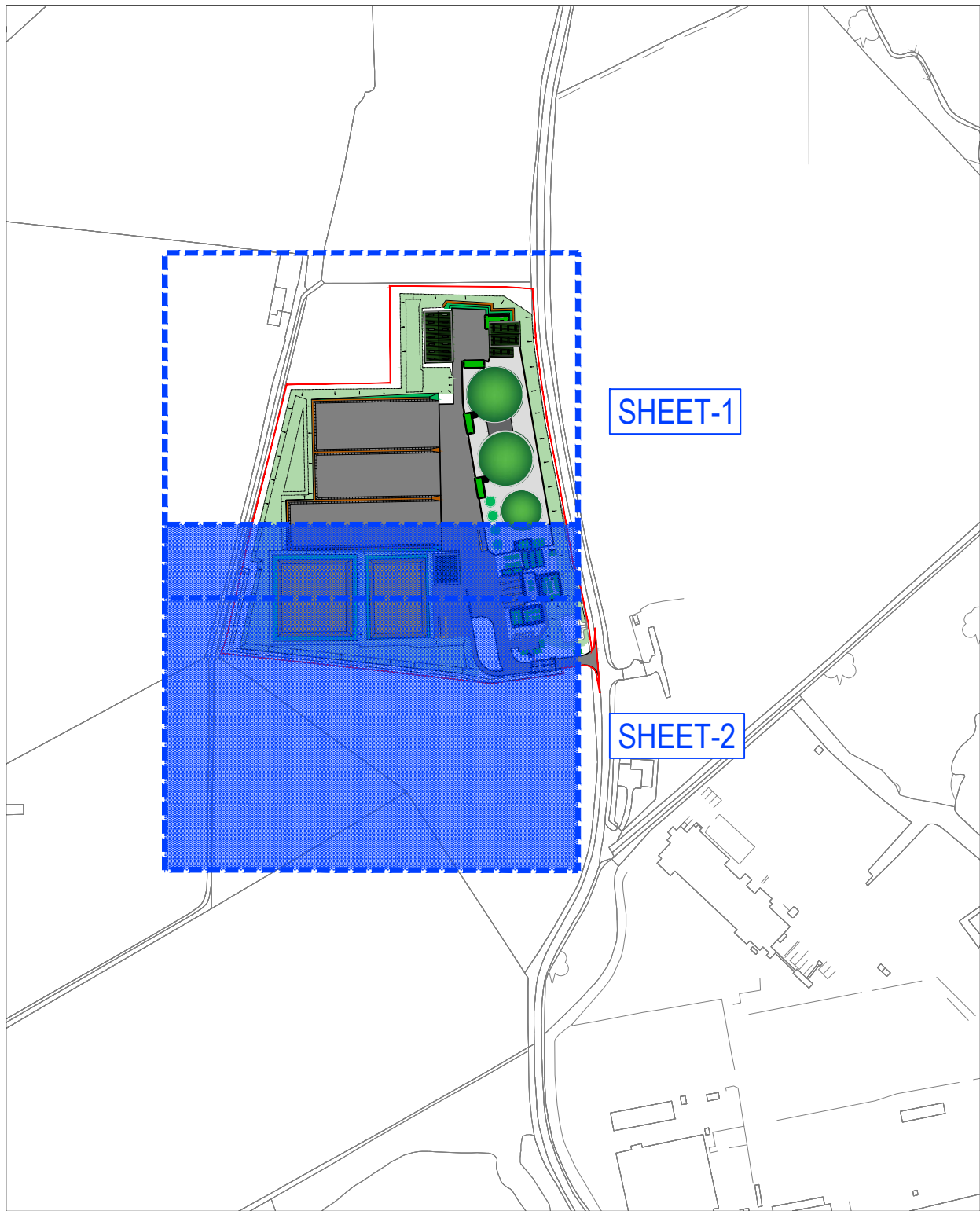
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Job Title
AD Plant.
Ashton Keynes

Drawing Title
Site Layout Plan
Sheet 1 of 2

Status	Planning		
Scale	As Noted @ A1	Date	July '24
Drawn By	J. Collins	Checked	JHC
Approved	JHC		
Dwg. No.	29419/P2/101		Rev
		P03	



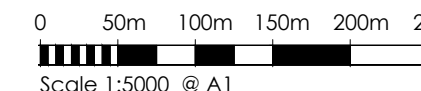
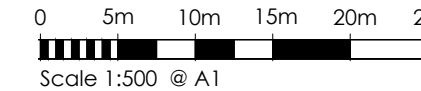
SITE LOCATION PLAN
Scale: 1:5000 @ A1

SITE PLAN
Scale: 1:500 @ A1

NOT FOR CONSTRUCTION

- NOTES:-
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Site Red Line Boundary (7.06Ha)



P03	11/09/24	ISSUED FOR APPROVAL	ASP	JHC
P02	10/09/24	ISSUED FOR APPROVAL	WP	JHC
P01	07/08/24	ISSUED FOR APPROVAL	JHC	JHC
Rev	Date	Description	DR	CH

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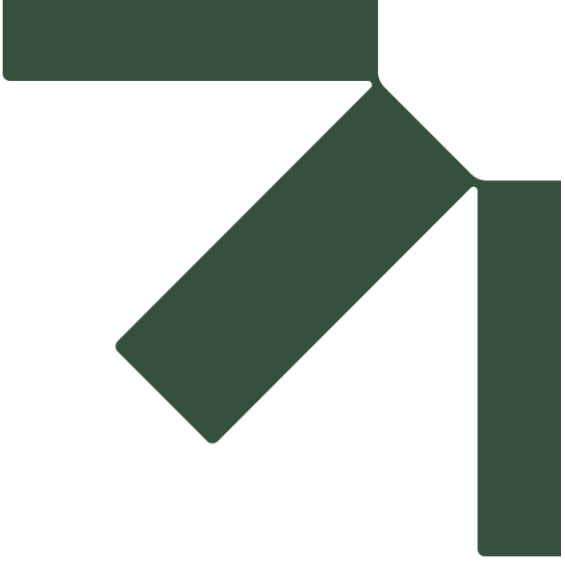
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Client
AD Plant.
Ashton Keynes

Drawing Title
Site Layout Plan
Sheet 2 of 2

Status	Planning
Scale	As Noted @ A1
Date	July '24
Drawn By	J. Collins
Checked	JHC
Approved	JHC
Dwg. No.	29419/P2/101
Rev	P03



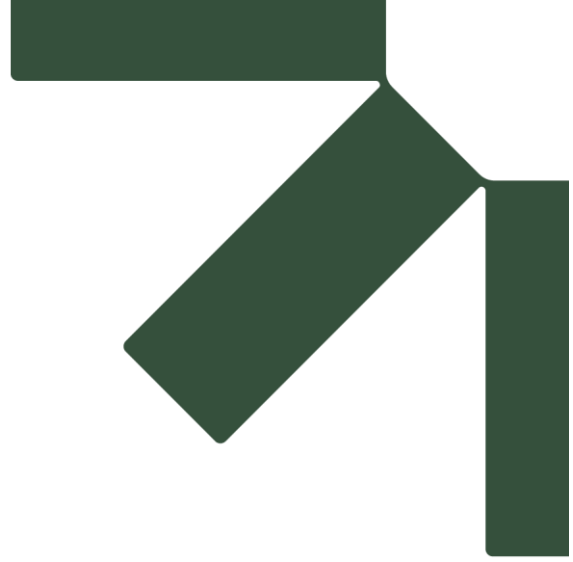
Appendix C Survey Location Photos

Figure 1
Location One



Figure 2
Location Two





Appendix D Survey Results

Table 1
Location One Survey Results

Date/Time	L_{Aeq,T}	L_{Amax}	L_{A10}	L_{A90}
29/09/2022 12:15	59.2	74.3	64.7	40.1
29/09/2022 12:30	59.6	75.0	64.7	41.0
29/09/2022 12:45	58.7	73.5	63.4	40.7
29/09/2022 13:00	58.4	73.3	63.2	40.0
29/09/2022 13:15	58.8	74.9	63.5	40.6
29/09/2022 13:30	60.1	76.2	65.0	39.6
29/09/2022 13:45	58.4	73.1	62.9	38.4
29/09/2022 14:00	60.1	73.1	66.1	39.8
29/09/2022 14:15	59.3	74.7	64.3	39.4
29/09/2022 14:30	59.6	75.6	63.6	41.1
29/09/2022 14:45	59.2	82.1	63.4	39.6
29/09/2022 15:00	57.2	72.1	61.5	40.2
29/09/2022 15:15	58.6	72.7	63.8	40.8
29/09/2022 15:30	58.2	72.7	63.6	39.1
29/09/2022 15:45	60.7	74.7	66.0	41.9
29/09/2022 16:00	59.9	72.6	65.6	40.8
29/09/2022 16:15	64.2	87.6	66.6	40.2
29/09/2022 16:30	61.1	73.9	66.7	42.1
29/09/2022 16:45	60.1	73.7	65.9	39.5
29/09/2022 17:00	59.0	74.3	64.1	38.9
29/09/2022 17:15	60.3	75.7	66.2	39.8
29/09/2022 17:30	61.2	80.7	66.1	40.2
29/09/2022 17:45	61.0	75.8	67.1	39.4
29/09/2022 18:00	58.8	72.7	63.3	37.5
29/09/2022 18:15	58.3	74.5	62.4	38.1
29/09/2022 18:30	57.7	75.3	60.9	38.9
29/09/2022 18:45	55.6	73.4	57.4	37.3
29/09/2022 19:00	60.0	88.3	59.8	37.8
29/09/2022 19:15	56.9	76.4	58.6	36.1
29/09/2022 19:30	55.6	71.9	57.4	36.6
29/09/2022 19:45	55.9	73.6	58.0	39.1
29/09/2022 20:00	54.4	75.6	54.1	37.4
29/09/2022 20:15	53.2	75.8	51.9	36.2
29/09/2022 20:30	51.0	75.3	44.1	33.9
29/09/2022 20:45	52.9	73.3	51.2	36.1



Date/Time	L _{Aeq,T}	L _{Amax}	L _{A10}	L _{A90}
29/09/2022 21:00	49.3	70.5	44.0	33.8
29/09/2022 21:15	51.2	70.9	46.9	33.4
29/09/2022 21:30	52.6	73.2	49.4	35.4
29/09/2022 21:45	54.7	75.1	52.7	36.7
29/09/2022 22:00	49.8	72.3	42.2	35.3
29/09/2022 22:15	53.8	75.2	47.8	34.2
29/09/2022 22:30	46.8	67.2	40.7	34.0
29/09/2022 22:45	49.0	73.6	40.4	33.3
29/09/2022 23:00	46.8	70.3	40.4	34.4
29/09/2022 23:15	50.3	72.0	46.7	33.5
29/09/2022 23:30	48.4	74.9	38.7	31.7
29/09/2022 23:45	39.9	64.3	36.7	31.6
30/09/2022 00:00	46.6	69.4	38.0	28.9
30/09/2022 00:15	41.6	67.0	35.5	31.6
30/09/2022 00:30	46.8	69.4	36.9	28.7
30/09/2022 00:45	34.5	54.1	35.0	31.1
30/09/2022 01:00	44.5	70.6	36.9	32.1
30/09/2022 01:15	45.1	73.3	34.5	29.7
30/09/2022 01:30	40.1	65.9	34.7	30.1
30/09/2022 01:45	31.3	42.6	33.3	28.8
30/09/2022 02:00	31.0	41.8	34.0	27.2
30/09/2022 02:15	34.7	51.1	36.2	32.4
30/09/2022 02:30	34.1	39.2	35.5	30.8
30/09/2022 02:45	34.8	41.9	36.7	32.2
30/09/2022 03:00	35.7	46.7	37.2	32.5
30/09/2022 03:15	42.0	67.9	36.7	32.2
30/09/2022 03:30	34.0	45.9	35.8	31.1
30/09/2022 03:45	35.4	42.1	37.3	33.0
30/09/2022 04:00	44.0	70.3	39.0	31.0
30/09/2022 04:15	36.2	48.1	39.2	30.3
30/09/2022 04:30	48.1	70.4	40.8	32.9
30/09/2022 04:45	48.0	72.5	38.9	31.6
30/09/2022 05:00	49.5	72.1	41.3	31.0
30/09/2022 05:15	53.8	73.9	49.2	30.0
30/09/2022 05:30	54.1	75.4	51.5	29.6
30/09/2022 05:45	54.2	73.0	51.2	30.8
30/09/2022 06:00	55.4	74.7	52.4	32.2



Date/Time	L _{Aeq,T}	L _{Amax}	L _{A10}	L _{A90}
30/09/2022 06:15	54.9	75.2	54.2	32.8
30/09/2022 06:30	56.9	75.9	58.0	34.0
30/09/2022 06:45	56.8	74.0	58.1	35.8
30/09/2022 07:00	57.2	73.6	59.2	32.6
30/09/2022 07:15	59.4	74.7	64.5	34.4
30/09/2022 07:30	59.3	74.9	64.0	35.9
30/09/2022 07:45	60.2	74.4	65.8	37.4
30/09/2022 08:00	60.6	73.5	66.4	37.6
30/09/2022 08:15	60.7	74.1	66.4	38.1
30/09/2022 08:30	60.1	75.5	65.3	38.9
30/09/2022 08:45	60.6	73.5	66.2	40.5
30/09/2022 09:00	61.5	78.2	66.2	43.6
30/09/2022 09:15	60.2	75.6	65.4	42.2
30/09/2022 09:30	56.6	71.5	59.1	40.6
30/09/2022 09:45	58.2	73.8	61.9	42.1
30/09/2022 10:00	57.6	74.7	60.4	43.1
30/09/2022 10:15	59.2	75.8	63.9	42.7
30/09/2022 10:30	59.5	76.6	64.5	43.6
30/09/2022 10:45	59.1	76.1	63.4	45.2
30/09/2022 11:00	59.6	74.9	64.3	44.4
30/09/2022 11:15	58.2	72.4	61.4	45.8
30/09/2022 11:30	59.9	74.1	65.2	45.5
30/09/2022 11:45	59.6	73.4	64.8	46.6
30/09/2022 12:00	59.7	74.3	65.0	47.2
30/09/2022 12:15	60.6	74.0	65.8	48.6
30/09/2022 12:30	60.0	79.1	63.1	46.0
30/09/2022 12:45	60.3	75.4	65.2	49.1
30/09/2022 13:00	60.3	76.3	65.1	48.9
30/09/2022 13:15	60.2	75.6	64.9	49.0
30/09/2022 13:30	60.1	73.5	64.8	48.6
30/09/2022 13:45	61.9	78.7	66.9	50.5
30/09/2022 14:00	61.7	76.0	67.1	49.0
30/09/2022 14:15	62.1	79.9	67.3	51.2
30/09/2022 14:30	62.2	73.2	67.2	50.7
30/09/2022 14:45	61.7	74.7	66.7	50.2
30/09/2022 15:00	61.1	74.9	66.3	49.5
30/09/2022 15:15	61.7	74.7	66.7	50.3



Date/Time	L _{Aeq,T}	L _{Amax}	L _{A10}	L _{A90}
30/09/2022 15:30	61.9	74.2	66.8	51.6
30/09/2022 15:45	61.9	75.7	66.9	53.0
30/09/2022 16:00	61.8	74.9	66.9	50.2
30/09/2022 16:15	62.1	79.5	66.5	52.5
30/09/2022 16:30	62.5	73.1	67.5	53.6
30/09/2022 16:45	63.2	75.2	67.8	53.7
30/09/2022 17:00	62.4	72.9	67.3	52.1
30/09/2022 17:15	61.7	73.4	66.1	53.2
30/09/2022 17:30	69.8	103.5	69.4	55.1
30/09/2022 17:45	63.9	85.6	67.5	55.9
30/09/2022 18:00	66.4	89.2	68.5	56.6
30/09/2022 18:15	70.0	95.9	71.6	56.2
30/09/2022 18:30	72.4	96.4	74.3	57.0
30/09/2022 18:45	73.6	101.1	75.9	57.7
30/09/2022 19:00	72.5	98.5	75.1	59.2
30/09/2022 19:15	74.5	94.9	78.2	54.8
30/09/2022 19:30	73.5	99.5	76.4	55.0
30/09/2022 19:45	71.2	95.0	73.5	51.6
30/09/2022 20:00	68.8	94.0	70.7	47.6
30/09/2022 20:15	73.5	103.6	73.9	44.6
30/09/2022 20:30	67.7	95.8	70.3	43.7
30/09/2022 20:45	58.7	79.4	61.9	38.5
30/09/2022 21:00	55.1	75.5	57.8	34.9
30/09/2022 21:15	49.5	70.9	47.0	32.2
30/09/2022 21:30	51.2	71.8	50.9	33.3
30/09/2022 21:45	53.0	72.3	52.7	34.0
30/09/2022 22:00	50.6	70.3	50.5	33.2
30/09/2022 22:15	52.2	74.7	48.8	33.0
30/09/2022 22:30	51.8	75.5	49.6	31.7
30/09/2022 22:45	50.0	71.9	45.9	29.7
30/09/2022 23:00	51.5	71.9	48.6	30.4
30/09/2022 23:15	51.8	73.0	51.0	32.0
30/09/2022 23:30	52.7	76.8	52.7	32.9
30/09/2022 23:45	49.9	73.0	50.9	32.4
01/10/2022 00:00	49.3	74.6	49.6	32.5
01/10/2022 00:15	47.7	71.5	42.7	30.2
01/10/2022 00:30	50.3	71.5	50.3	32.0



Date/Time	L _{Aeq,T}	L _{Amax}	L _{A10}	L _{A90}
01/10/2022 00:45	43.5	64.8	45.2	31.4
01/10/2022 01:00	51.4	74.3	50.7	32.7
01/10/2022 01:15	47.9	71.2	48.1	31.6
01/10/2022 01:30	47.7	72.4	46.1	30.5
01/10/2022 01:45	47.5	71.8	48.6	31.3
01/10/2022 02:00	45.8	66.4	47.8	30.9
01/10/2022 02:15	46.4	70.4	48.0	31.1
01/10/2022 02:30	48.7	71.3	50.6	33.2
01/10/2022 02:45	50.1	77.8	43.1	28.5
01/10/2022 03:00	36.4	59.3	35.8	27.6
01/10/2022 03:15	46.3	72.0	41.1	27.7
01/10/2022 03:30	45.7	70.8	42.2	29.2
01/10/2022 03:45	42.2	67.6	38.0	28.3
01/10/2022 04:00	30.7	55.5	32.1	26.9
01/10/2022 04:15	28.6	38.1	30.2	26.5
01/10/2022 04:30	28.8	41.8	30.5	26.5
01/10/2022 04:45	43.7	71.6	31.9	26.6
01/10/2022 05:00	43.8	69.6	33.6	28.0
01/10/2022 05:15	40.7	66.6	32.1	27.0
01/10/2022 05:30	39.7	65.0	32.9	27.4
01/10/2022 05:45	43.5	67.8	34.0	27.0
01/10/2022 06:00	38.6	64.3	32.4	26.4
01/10/2022 06:15	42.4	67.6	39.2	27.6
01/10/2022 06:30	50.8	75.4	49.0	31.7
01/10/2022 06:45	51.6	72.7	50.2	33.1
01/10/2022 07:00	53.8	76.2	52.0	33.2
01/10/2022 07:15	54.9	73.0	54.8	35.7
01/10/2022 07:30	55.0	73.6	55.4	35.8
01/10/2022 07:45	54.1	73.5	53.7	35.9
01/10/2022 08:00	55.7	73.6	57.0	37.5
01/10/2022 08:15	56.5	73.6	58.1	38.8
01/10/2022 08:30	57.9	74.2	61.4	39.5
01/10/2022 08:45	58.7	72.4	63.6	38.5
01/10/2022 09:00	57.8	73.5	61.3	37.6
01/10/2022 09:15	56.7	77.9	58.9	38.4
01/10/2022 09:30	57.3	73.5	60.1	38.9
01/10/2022 09:45	58.2	73.2	62.4	40.3



Date/Time	L _{Aeq,T}	L _{Amax}	L _{A10}	L _{A90}
01/10/2022 10:00	58.0	72.2	62.7	40.6
01/10/2022 10:15	58.0	70.9	63.0	41.3
01/10/2022 10:30	57.9	71.5	62.7	41.9
01/10/2022 10:45	58.1	72.2	63.1	42.4
01/10/2022 11:00	59.5	73.5	64.4	43.1
01/10/2022 11:15	57.9	76.0	61.7	41.2
01/10/2022 11:30	58.8	77.0	63.1	43.5
01/10/2022 11:45	58.8	77.9	64.0	42.5
01/10/2022 12:00	57.5	71.8	61.4	42.5
01/10/2022 12:15	57.4	75.7	61.1	40.4
01/10/2022 12:30	59.0	75.5	63.4	42.8
01/10/2022 12:45	57.2	72.5	61.2	45.2
01/10/2022 13:00	57.8	72.4	61.9	43.4
01/10/2022 13:15	57.3	74.5	61.7	43.4
01/10/2022 13:30	56.6	73.5	60.3	42.9
01/10/2022 13:45	56.7	74.0	60.6	42.7
01/10/2022 14:00	56.6	71.8	59.8	42.5
01/10/2022 14:15	55.7	70.3	58.9	45.2
01/10/2022 14:30	58.0	73.6	62.1	46.8
01/10/2022 14:45	57.6	74.5	61.7	45.6
01/10/2022 15:00	59.3	83.7	62.8	47.1
01/10/2022 15:15	57.1	72.0	60.3	44.5
01/10/2022 15:30	58.6	76.7	62.8	46.1
01/10/2022 15:45	57.4	78.7	61.3	43.7
01/10/2022 16:00	58.2	75.7	62.3	48.0
01/10/2022 16:15	58.9	75.3	62.9	46.3
01/10/2022 16:30	56.9	72.0	60.1	47.1
01/10/2022 16:45	59.0	88.1	60.7	44.2
01/10/2022 17:00	58.1	87.6	61.0	41.2
01/10/2022 17:15	56.2	73.7	59.7	42.7
01/10/2022 17:30	56.1	74.0	58.8	39.1
01/10/2022 17:45	55.4	71.8	58.2	40.5
01/10/2022 18:00	54.9	71.2	56.7	40.2
01/10/2022 18:15	56.7	78.0	58.8	40.8
01/10/2022 18:30	54.9	72.0	56.0	40.3
01/10/2022 18:45	56.2	72.3	59.5	38.8
01/10/2022 19:00	53.6	75.1	53.3	39.3



Date/Time	L _{Aeq,T}	L _{Amax}	L _{A10}	L _{A90}
01/10/2022 19:15	54.4	71.8	56.4	36.4
01/10/2022 19:30	53.6	71.6	54.8	36.0
01/10/2022 19:45	53.8	78.2	52.6	37.3
01/10/2022 20:00	52.3	81.5	49.5	38.1
01/10/2022 20:15	49.6	68.0	49.7	38.0
01/10/2022 20:30	51.8	71.3	51.6	37.2
01/10/2022 20:45	51.4	71.5	49.5	33.5
01/10/2022 21:00	50.8	71.6	48.6	31.1
01/10/2022 21:15	45.2	68.8	37.3	29.1
01/10/2022 21:30	51.2	75.3	45.1	30.7
01/10/2022 21:45	49.3	72.9	46.8	33.2
01/10/2022 22:00	49.6	68.3	49.6	35.5
01/10/2022 22:15	50.0	76.4	47.8	37.7
01/10/2022 22:30	49.0	70.0	47.1	30.8
01/10/2022 22:45	48.6	69.4	42.5	32.5
01/10/2022 23:00	50.0	70.6	46.7	32.8
01/10/2022 23:15	47.8	70.7	47.0	35.9
01/10/2022 23:30	49.1	74.0	46.1	36.4
01/10/2022 23:45	47.8	70.7	45.6	36.1
02/10/2022 00:00	49.2	74.0	43.1	32.9
02/10/2022 00:15	43.5	66.6	39.4	30.6
02/10/2022 00:30	43.9	65.9	41.1	31.9
02/10/2022 00:45	45.7	73.7	40.5	30.2
02/10/2022 01:00	32.4	51.5	34.1	29.2
02/10/2022 01:15	42.2	68.3	36.5	27.9
02/10/2022 01:30	32.0	48.1	34.8	27.6
02/10/2022 01:45	45.2	69.8	38.8	31.7
02/10/2022 02:00	30.3	46.7	32.6	27.2
02/10/2022 02:15	48.0	78.0	34.9	28.1
02/10/2022 02:30	31.1	50.0	32.9	27.6
02/10/2022 02:45	28.7	39.4	30.7	25.9
02/10/2022 03:00	30.8	49.4	32.2	26.2
02/10/2022 03:15	40.5	67.1	31.5	25.8
02/10/2022 03:30	27.2	38.6	28.6	25.2
02/10/2022 03:45	41.6	68.6	31.5	25.3
02/10/2022 04:00	29.4	44.6	31.4	25.5
02/10/2022 04:15	42.7	71.4	31.7	26.2



Date/Time	L _{Aeq,T}	L _{Amax}	L _{A10}	L _{A90}
02/10/2022 04:30	44.6	69.9	31.8	26.6
02/10/2022 04:45	31.0	49.4	33.4	27.3
02/10/2022 05:00	29.9	42.5	32.5	26.4
02/10/2022 05:15	33.7	48.6	37.6	26.4
02/10/2022 05:30	33.0	45.4	36.4	28.1
02/10/2022 05:45	46.2	72.6	39.9	28.5
02/10/2022 06:00	41.7	68.2	38.7	26.7
02/10/2022 06:15	48.6	76.3	35.9	27.3
02/10/2022 06:30	46.9	70.6	37.6	28.4
02/10/2022 06:45	48.3	70.4	45.9	31.4
02/10/2022 07:00	49.6	73.0	45.8	30.4
02/10/2022 07:15	50.6	69.8	48.8	33.4
02/10/2022 07:30	52.0	72.0	50.0	31.7
02/10/2022 07:45	50.5	68.7	50.9	31.0
02/10/2022 08:00	50.3	70.5	49.0	31.3
02/10/2022 08:15	50.6	68.7	53.3	34.4
02/10/2022 08:30	63.4	92.8	52.4	32.6
02/10/2022 08:45	53.5	71.5	54.8	33.9
02/10/2022 09:00	55.0	74.6	54.7	34.0
02/10/2022 09:15	53.1	71.7	53.2	34.8
02/10/2022 09:30	56.3	72.1	59.0	33.7
02/10/2022 09:45	57.3	72.0	61.2	36.2
02/10/2022 10:00	54.2	73.6	54.9	33.4
02/10/2022 10:15	54.4	72.0	56.1	33.8
02/10/2022 10:30	56.8	71.6	60.7	35.2
02/10/2022 10:45	57.2	72.0	61.1	36.2
02/10/2022 11:00	56.3	73.4	60.8	34.4
02/10/2022 11:15	55.2	73.6	56.9	35.4
02/10/2022 11:30	55.5	70.7	58.8	36.9
02/10/2022 11:45	57.4	73.8	62.1	38.6
02/10/2022 12:00	59.6	87.3	61.7	36.1
02/10/2022 12:15	57.1	72.4	61.1	38.4
02/10/2022 12:30	55.8	71.1	59.3	36.6
02/10/2022 12:45	56.6	72.4	61.3	38.0
02/10/2022 13:00	56.7	73.5	60.4	38.6
02/10/2022 13:15	57.2	73.0	61.5	38.0
02/10/2022 13:30	55.6	72.5	59.3	36.9



Date/Time	L _{Aeq,T}	L _{Amax}	L _{A10}	L _{A90}
02/10/2022 13:45	56.9	78.7	59.3	38.8
02/10/2022 14:00	56.3	71.0	61.4	37.6
02/10/2022 14:15	52.9	71.2	53.3	36.8
02/10/2022 14:30	56.8	74.8	59.9	38.0
02/10/2022 14:45	55.6	71.3	58.8	36.5
02/10/2022 15:00	55.3	71.4	58.3	35.2
02/10/2022 15:15	56.0	71.6	59.1	35.6
02/10/2022 15:30	55.9	74.6	58.8	35.6
02/10/2022 15:45	56.3	71.5	59.6	34.0
02/10/2022 16:00	56.9	73.8	61.6	35.1
02/10/2022 16:15	55.0	77.2	55.0	33.1
02/10/2022 16:30	54.1	71.8	55.7	33.3
02/10/2022 16:45	56.0	75.4	56.0	34.2
02/10/2022 17:00	54.3	71.8	55.2	33.9
02/10/2022 17:15	54.1	72.8	54.7	33.5
02/10/2022 17:30	54.8	79.0	55.3	32.5
02/10/2022 17:45	53.8	71.2	54.0	32.8
02/10/2022 18:00	53.4	71.9	54.8	32.3
02/10/2022 18:15	55.6	80.4	53.8	32.3
02/10/2022 18:30	50.1	68.4	48.2	31.3
02/10/2022 18:45	50.8	71.7	47.9	31.7
02/10/2022 19:00	52.0	72.2	50.5	31.0
02/10/2022 19:15	51.3	72.0	47.4	32.5
02/10/2022 19:30	51.8	71.7	50.0	31.3
02/10/2022 19:45	52.0	74.3	51.4	32.8
02/10/2022 20:00	50.8	70.3	47.2	32.1
02/10/2022 20:15	50.9	69.5	49.0	32.1
02/10/2022 20:30	51.8	72.7	47.4	35.5
02/10/2022 20:45	51.0	71.9	46.7	35.3
02/10/2022 21:00	50.6	72.3	46.3	34.8
02/10/2022 21:15	43.7	71.1	37.2	31.4
02/10/2022 21:30	46.0	71.3	39.4	32.3
02/10/2022 21:45	47.2	70.3	41.2	32.4
02/10/2022 22:00	47.3	70.9	41.0	32.6
02/10/2022 22:15	47.4	71.0	39.9	29.6
02/10/2022 22:30	44.0	69.6	35.8	31.3
02/10/2022 22:45	40.2	66.8	34.3	29.0



Date/Time	L _{Aeq,T}	L _{Amax}	L _{A10}	L _{A90}
02/10/2022 23:00	45.0	67.2	37.9	30.9
02/10/2022 23:15	42.5	66.7	37.1	31.0
02/10/2022 23:30	44.7	71.8	38.0	31.8
02/10/2022 23:45	43.0	70.0	36.7	30.8
03/10/2022 00:00	34.2	44.5	37.0	28.6
03/10/2022 00:15	49.8	72.9	41.9	30.0
03/10/2022 00:30	42.6	69.0	34.2	30.2
03/10/2022 00:45	33.2	47.6	34.7	30.1
03/10/2022 01:00	33.3	48.7	33.5	30.3
03/10/2022 01:15	30.3	44.1	32.5	26.5
03/10/2022 01:30	32.9	48.5	34.8	26.8
03/10/2022 01:45	29.7	43.7	31.7	26.8
03/10/2022 02:00	30.2	41.0	32.4	27.0
03/10/2022 02:15	35.0	57.1	34.8	28.9
03/10/2022 02:30	34.2	55.9	35.0	30.8
03/10/2022 02:45	33.4	46.4	35.0	28.9
03/10/2022 03:00	31.2	48.1	33.3	28.0
03/10/2022 03:15	32.1	44.1	34.2	27.0
03/10/2022 03:30	41.8	68.7	33.7	26.7
03/10/2022 03:45	45.0	72.1	36.3	30.8
03/10/2022 04:00	47.9	71.3	38.7	30.3
03/10/2022 04:15	43.3	67.1	38.7	33.2
03/10/2022 04:30	38.4	62.6	37.4	32.7
03/10/2022 04:45	45.4	71.0	40.6	34.4
03/10/2022 05:00	50.5	71.3	43.9	35.3
03/10/2022 05:15	55.4	73.6	54.2	36.5
03/10/2022 05:30	54.1	73.8	51.0	37.1
03/10/2022 05:45	54.3	73.3	53.8	37.3
03/10/2022 06:00	54.5	73.3	53.7	37.3
03/10/2022 06:15	53.3	73.1	52.0	38.9
03/10/2022 06:30	56.4	78.9	55.8	40.2
03/10/2022 06:45	56.7	73.4	58.2	41.2
03/10/2022 07:00	57.5	76.1	59.1	42.1
03/10/2022 07:15	58.4	75.0	62.8	43.5
03/10/2022 07:30	59.3	75.7	64.2	44.0
03/10/2022 07:45	60.4	74.0	65.6	44.8
03/10/2022 08:00	60.4	75.0	65.7	43.8



Date/Time	L _{Aeq,T}	L _{Amax}	L _{A10}	L _{A90}
03/10/2022 08:15	60.5	75.0	65.7	44.3
03/10/2022 08:30	60.5	74.7	65.9	43.5
03/10/2022 08:45	60.0	75.0	65.6	42.5
03/10/2022 09:00	60.3	74.9	65.7	42.3
03/10/2022 09:15	58.1	74.0	62.3	41.7
03/10/2022 09:30	57.8	74.7	60.7	40.6
03/10/2022 09:45	57.1	74.8	59.9	39.5
03/10/2022 10:00	57.5	72.7	61.5	39.2
03/10/2022 10:15	58.6	79.1	61.8	38.7
03/10/2022 10:30	57.3	74.8	61.0	38.5
03/10/2022 10:45	56.2	71.8	59.8	40.3
03/10/2022 11:00	59.0	74.8	62.9	37.4
03/10/2022 11:15	58.3	74.9	61.4	36.6
03/10/2022 11:30	57.8	72.5	62.4	36.4
03/10/2022 11:45	58.8	79.4	62.5	38.3
03/10/2022 12:00	56.6	73.1	60.1	35.8
03/10/2022 12:15	58.2	74.7	63.2	36.5
03/10/2022 12:30	57.3	75.3	61.5	38.1
03/10/2022 12:45	57.6	77.4	60.9	39.4
03/10/2022 13:00	57.5	72.4	61.7	42.0
03/10/2022 13:15	58.2	75.4	62.8	45.3
03/10/2022 13:30	57.8	74.4	61.5	41.9
03/10/2022 13:45	57.3	72.2	62.1	43.1
03/10/2022 14:00	59.3	75.6	64.2	43.0
03/10/2022 14:15	57.9	72.7	62.4	42.4
03/10/2022 14:30	58.9	74.6	63.5	43.9
03/10/2022 14:45	57.8	73.5	62.2	42.7
03/10/2022 15:00	57.8	73.5	61.6	42.3
03/10/2022 15:15	57.9	79.7	61.3	43.9
03/10/2022 15:30	59.1	75.9	63.8	43.8
03/10/2022 15:45	58.5	72.8	62.9	43.0
03/10/2022 16:00	59.7	72.2	64.5	45.4
03/10/2022 16:15	57.9	72.3	62.5	43.4
03/10/2022 16:30	60.6	84.0	65.5	46.3
03/10/2022 16:45	60.7	84.2	64.0	44.2
03/10/2022 17:00	58.7	72.1	64.2	44.4
03/10/2022 17:15	59.9	71.8	65.6	45.3



Date/Time	L _{Aeq,T}	L _{Amax}	L _{A10}	L _{A90}
03/10/2022 17:30	59.5	72.4	65.0	44.6
03/10/2022 17:45	58.1	74.0	62.9	38.1
03/10/2022 18:00	57.3	74.4	60.6	36.9
03/10/2022 18:15	57.3	71.8	61.8	39.5
03/10/2022 18:30	56.9	76.2	59.4	36.7
03/10/2022 18:45	55.4	72.6	57.8	36.8
03/10/2022 19:00	56.2	72.9	58.7	36.3
03/10/2022 19:15	54.3	70.8	57.0	34.8
03/10/2022 19:30	54.2	70.7	55.5	33.1
03/10/2022 19:45	51.8	70.3	51.7	32.4
03/10/2022 20:00	50.1	70.1	46.6	33.2
03/10/2022 20:15	52.7	73.1	50.4	32.5
03/10/2022 20:30	52.8	73.4	51.5	28.7
03/10/2022 20:45	50.2	71.0	48.9	30.3
03/10/2022 21:00	52.6	72.9	51.3	31.2
03/10/2022 21:15	50.5	68.4	49.0	30.9
03/10/2022 21:30	46.4	70.4	42.0	30.1
03/10/2022 21:45	48.4	70.1	40.3	29.1
03/10/2022 22:00	50.7	71.1	42.7	27.1
03/10/2022 22:15	51.3	74.2	46.1	30.8
03/10/2022 22:30	50.7	76.2	44.3	32.2
03/10/2022 22:45	49.1	73.8	40.8	25.7
03/10/2022 23:00	47.1	71.7	40.2	24.8
03/10/2022 23:15	44.2	69.1	37.3	26.1
03/10/2022 23:30	44.7	67.9	36.7	25.1
03/10/2022 23:45	43.4	70.5	32.2	23.5
04/10/2022 00:00	46.2	72.5	35.1	23.4
04/10/2022 00:15	39.3	63.8	33.0	24.1
04/10/2022 00:30	30.6	55.8	31.1	25.4
04/10/2022 00:45	27.1	38.3	29.1	24.7
04/10/2022 01:00	27.7	37.1	29.2	25.6
04/10/2022 01:15	28.2	37.4	30.3	25.7
04/10/2022 01:30	38.2	64.6	30.3	25.2
04/10/2022 01:45	39.8	66.2	30.5	22.2
04/10/2022 02:00	25.1	39.6	25.7	22.5
04/10/2022 02:15	25.6	40.1	26.7	22.2
04/10/2022 02:30	39.5	66.6	30.2	22.3



Date/Time	L _{Aeq,T}	L _{Amax}	L _{A10}	L _{A90}
04/10/2022 02:45	26.6	38.3	29.0	23.1
04/10/2022 03:00	28.4	41.2	31.5	22.9
04/10/2022 03:15	41.3	68.4	32.5	24.6
04/10/2022 03:30	32.2	45.7	34.8	27.9
04/10/2022 03:45	33.7	53.6	36.4	29.1
04/10/2022 04:00	46.5	70.8	40.9	31.4
04/10/2022 04:15	42.3	69.8	36.4	28.9
04/10/2022 04:30	44.4	69.7	40.3	31.5
04/10/2022 04:45	44.8	67.6	42.6	33.5
04/10/2022 05:00	50.5	72.9	47.6	33.9
04/10/2022 05:15	53.6	71.4	53.7	33.6
04/10/2022 05:30	53.9	71.9	53.7	33.2
04/10/2022 05:45	52.9	72.8	51.5	34.1
04/10/2022 06:00	53.1	71.8	52.2	32.7
04/10/2022 06:15	53.6	72.3	53.4	33.3
04/10/2022 06:30	53.4	76.0	50.6	35.3
04/10/2022 06:45	56.9	72.9	59.5	40.6
04/10/2022 07:00	57.2	73.0	60.1	40.2
04/10/2022 07:15	57.8	73.3	62.2	41.7
04/10/2022 07:30	59.1	73.4	63.8	44.2
04/10/2022 07:45	59.9	73.4	65.5	42.5
04/10/2022 08:00	58.9	73.5	63.8	44.7
04/10/2022 08:15	60.9	75.2	65.7	46.5
04/10/2022 08:30	59.7	73.9	65.4	44.5
04/10/2022 08:45	60.3	76.9	65.2	46.5
04/10/2022 09:00	59.6	76.9	63.9	46.0
04/10/2022 09:15	59.8	87.4	64.4	47.0
04/10/2022 09:30	55.9	71.2	57.4	42.8
04/10/2022 09:45	57.1	73.6	59.6	42.9
04/10/2022 10:00	58.4	81.6	60.3	42.5
04/10/2022 10:15	57.5	77.0	59.9	44.9
04/10/2022 10:30	59.4	80.9	62.8	49.0
04/10/2022 10:45	58.9	86.8	62.4	46.8
04/10/2022 11:00	59.4	83.4	61.6	47.8
04/10/2022 11:15	58.5	79.3	61.8	47.5
04/10/2022 11:30	58.7	81.7	61.0	47.4
04/10/2022 11:45	58.8	74.6	62.1	47.5



Date/Time	L _{Aeq,T}	L _{Amax}	L _{A10}	L _{A90}
04/10/2022 12:00	59.3	84.1	63.0	46.3
04/10/2022 12:15	59.3	71.0	63.9	48.0

Table 2
Location Two Survey Results

Date/Time	L _{Aeq,T}	L _{Amax}	L _{A10}	L _{A90}
29/09/2022 13:00	50.3	78.2	46.8	38.6
29/09/2022 13:15	42.5	61.7	44.6	38.7
29/09/2022 13:30	41.6	56.4	43.6	38.6
29/09/2022 13:45	39.6	50.4	41.9	36.8
29/09/2022 14:00	40.0	53.0	42.3	37.1
29/09/2022 14:15	42.8	63.8	43.6	36.9
29/09/2022 14:30	40.5	53.8	42.7	37.6
29/09/2022 14:45	43.3	60.2	45.6	37.3
29/09/2022 15:00	41.6	57.4	43.3	38.8
29/09/2022 15:15	41.0	56.8	43.1	37.3
29/09/2022 15:30	49.0	69.6	49.4	37.2
29/09/2022 15:45	43.4	55.4	45.3	40.3
29/09/2022 16:00	44.6	59.4	46.5	39.5
29/09/2022 16:15	45.8	62.9	47.2	41.4
29/09/2022 16:30	44.3	55.5	46.6	40.9
29/09/2022 16:45	41.5	58.2	43.6	36.8
29/09/2022 17:00	40.8	55.2	42.8	37.2
29/09/2022 17:15	42.0	56.6	43.9	39.0
29/09/2022 17:30	42.1	53.2	44.6	38.2
29/09/2022 17:45	42.6	55.2	45.1	38.4
29/09/2022 18:00	41.7	56.5	45.1	35.7
29/09/2022 18:15	40.5	51.1	43.3	35.8
29/09/2022 18:30	39.6	58.4	41.8	34.9
29/09/2022 18:45	39.1	50.4	41.3	35.3
29/09/2022 19:00	44.7	69.3	40.6	34.8
29/09/2022 19:15	39.1	63.5	38.7	34.1
29/09/2022 19:30	36.0	46.2	37.9	32.8
29/09/2022 19:45	38.1	55.4	39.7	35.6
29/09/2022 20:00	37.8	59.6	38.9	33.2



Date/Time	L _{Aeq,T}	L _{Amax}	L _{A10}	L _{A90}
29/09/2022 20:15	36.9	57.7	39.5	32.8
29/09/2022 20:30	35.3	54.7	37.1	32.4
29/09/2022 20:45	37.5	56.4	39.9	33.2
29/09/2022 21:00	37.0	49.8	39.4	33.7
29/09/2022 21:15	37.6	45.9	40.0	34.8
29/09/2022 21:30	39.3	51.6	41.0	35.2
29/09/2022 21:45	52.6	74.3	42.2	35.8
29/09/2022 22:00	37.2	46.4	39.0	34.6
29/09/2022 22:15	36.1	46.6	38.4	33.2
29/09/2022 22:30	37.1	60.7	38.0	34.0
29/09/2022 22:45	36.6	46.2	38.5	33.8
29/09/2022 23:00	35.1	45.6	37.3	31.9
29/09/2022 23:15	38.4	51.9	40.5	32.4
29/09/2022 23:30	36.0	47.5	38.0	33.1
29/09/2022 23:45	35.5	46.3	37.0	32.8
30/09/2022 00:00	33.5	46.0	36.1	29.3
30/09/2022 00:15	34.7	43.8	36.6	31.6
30/09/2022 00:30	35.6	49.2	37.1	32.0
30/09/2022 00:45	34.2	44.1	35.7	32.3
30/09/2022 01:00	35.6	46.5	37.5	32.7
30/09/2022 01:15	34.2	46.7	35.7	31.6
30/09/2022 01:30	33.8	44.1	35.6	30.8
30/09/2022 01:45	33.4	43.0	35.9	29.2
30/09/2022 02:00	29.5	39.9	31.4	26.8
30/09/2022 02:15	28.8	42.4	31.0	25.3
30/09/2022 02:30	28.5	39.0	30.2	26.3
30/09/2022 02:45	30.7	42.2	32.6	28.0
30/09/2022 03:00	33.0	45.5	35.3	29.3
30/09/2022 03:15	34.0	45.8	35.9	30.5
30/09/2022 03:30	33.3	44.3	35.5	29.5
30/09/2022 03:45	34.6	49.1	36.4	30.1
30/09/2022 04:00	37.3	49.0	39.9	33.2
30/09/2022 04:15	33.9	48.9	36.1	28.4
30/09/2022 04:30	35.9	47.8	39.4	30.0
30/09/2022 04:45	35.1	46.2	38.0	30.5
30/09/2022 05:00	33.8	45.3	36.9	27.5
30/09/2022 05:15	34.1	42.7	36.8	29.3



Date/Time	L _{Aeq,T}	L _{Amax}	L _{A10}	L _{A90}
30/09/2022 05:30	34.7	44.5	37.4	29.8
30/09/2022 05:45	33.1	41.8	36.4	27.5
30/09/2022 06:00	34.8	45.4	37.5	30.6
30/09/2022 06:15	38.2	58.6	38.6	31.1
30/09/2022 06:30	42.0	62.1	40.7	33.6
30/09/2022 06:45	40.2	64.8	41.4	34.0
30/09/2022 07:00	36.9	47.9	39.3	32.8
30/09/2022 07:15	38.2	56.7	40.1	34.7
30/09/2022 07:30	40.9	70.2	41.6	36.6
30/09/2022 07:45	41.5	54.1	43.4	38.6
30/09/2022 08:00	41.4	59.9	43.4	37.1
30/09/2022 08:15	39.4	47.1	41.9	35.5
30/09/2022 08:30	43.2	51.7	45.3	40.4
30/09/2022 08:45	44.9	57.8	47.2	41.5
30/09/2022 09:00	45.2	55.1	47.5	42.0
30/09/2022 09:15	49.1	66.1	48.1	40.4
30/09/2022 09:30	45.3	58.6	47.7	41.3
30/09/2022 09:45	47.1	62.9	49.5	42.0
30/09/2022 10:00	46.2	58.9	48.5	42.8
30/09/2022 10:15	47.0	57.9	49.3	42.9
30/09/2022 10:30	47.4	57.0	50.1	43.0
30/09/2022 10:45	47.5	62.2	49.6	43.3
30/09/2022 11:00	46.9	57.5	49.6	42.5
30/09/2022 11:15	47.6	59.9	49.6	43.8
30/09/2022 11:30	46.8	63.5	48.6	43.9
30/09/2022 11:45	47.9	62.4	49.8	44.5
30/09/2022 12:00	46.8	62.3	49.1	43.1
30/09/2022 12:15	49.0	67.9	50.5	43.3
30/09/2022 12:30	47.6	60.2	49.9	43.5
30/09/2022 12:45	47.8	55.8	50.1	43.7
30/09/2022 13:00	48.8	67.4	50.6	45.5
30/09/2022 13:15	48.2	62.6	50.3	44.9
30/09/2022 13:30	49.7	65.4	51.9	45.9
30/09/2022 13:45	49.4	62.8	51.3	46.8
30/09/2022 14:00	48.5	58.0	50.4	46.2
30/09/2022 14:15	51.2	62.6	53.3	47.5
30/09/2022 14:30	50.9	65.4	53.7	47.1



Date/Time	L _{Aeq,T}	L _{Amax}	L _{A10}	L _{A90}
30/09/2022 14:45	50.0	60.4	52.0	47.1
30/09/2022 15:00	49.9	63.9	51.9	46.8
30/09/2022 15:15	49.8	61.3	51.8	47.0
30/09/2022 15:30	51.2	62.6	53.2	48.3
30/09/2022 15:45	52.9	71.2	54.7	49.2
30/09/2022 16:00	50.5	64.6	52.3	47.5
30/09/2022 16:15	51.5	67.8	52.9	48.1
30/09/2022 16:30	52.1	69.5	54.4	48.5
30/09/2022 16:45	51.9	62.2	54.0	48.8
30/09/2022 17:00	51.7	62.6	53.5	49.1
30/09/2022 17:15	51.8	65.1	53.7	49.0
30/09/2022 17:30	51.7	62.7	53.8	48.6
30/09/2022 17:45	52.4	71.4	54.1	48.6
30/09/2022 18:00	52.8	69.5	54.4	49.0
30/09/2022 18:15	51.5	75.7	53.6	47.7
30/09/2022 18:30	50.3	65.9	51.9	47.1
30/09/2022 18:45	50.1	62.2	52.4	46.7
30/09/2022 19:00	50.4	70.5	52.3	46.7
30/09/2022 19:15	48.0	54.7	50.3	44.7
30/09/2022 19:30	48.0	59.3	50.4	43.4
30/09/2022 19:45	45.7	55.1	47.9	42.3
30/09/2022 20:00	43.8	56.6	46.5	38.7
30/09/2022 20:15	45.5	69.9	46.4	37.8
30/09/2022 20:30	49.4	69.3	53.2	40.0
30/09/2022 20:45	39.9	54.7	42.7	34.3
30/09/2022 21:00	39.0	51.7	41.9	33.8
30/09/2022 21:15	37.5	50.1	41.1	31.9
30/09/2022 21:30	39.9	55.7	42.6	33.4
30/09/2022 21:45	38.0	52.4	39.8	33.7
30/09/2022 22:00	36.5	47.8	39.1	33.0
30/09/2022 22:15	38.9	54.6	41.8	31.1
30/09/2022 22:30	34.6	47.6	38.1	29.4
30/09/2022 22:45	37.2	50.8	40.7	29.2
30/09/2022 23:00	37.1	53.4	39.6	29.7
30/09/2022 23:15	34.3	45.3	38.2	28.2
30/09/2022 23:30	36.4	52.2	39.7	30.0
30/09/2022 23:45	35.2	50.6	37.2	30.2



Date/Time	L _{Aeq,T}	L _{Amax}	L _{A10}	L _{A90}
01/10/2022 00:00	35.8	50.2	38.7	31.2
01/10/2022 00:15	31.7	41.9	34.0	28.4
01/10/2022 00:30	32.1	44.3	34.4	28.0
01/10/2022 00:45	31.4	46.0	32.3	28.0
01/10/2022 01:00	36.1	55.6	38.3	28.7
01/10/2022 01:15	33.4	48.4	35.5	27.6
01/10/2022 01:30	29.3	45.8	30.9	27.3
01/10/2022 01:45	30.2	36.4	32.5	26.9
01/10/2022 02:00	29.5	37.1	31.4	27.1
01/10/2022 02:15	30.9	38.0	32.4	28.9
01/10/2022 02:30	31.0	45.8	32.6	28.9
01/10/2022 02:45	31.6	45.0	33.6	27.9
01/10/2022 03:00	28.5	45.9	30.3	25.6
01/10/2022 03:15	35.9	55.6	40.3	25.4
01/10/2022 03:30	32.1	48.6	34.1	27.1
01/10/2022 03:45	30.8	44.5	33.8	26.2
01/10/2022 04:00	26.9	37.2	29.9	22.3
01/10/2022 04:15	22.9	34.8	24.6	20.7
01/10/2022 04:30	32.4	56.1	25.6	20.9
01/10/2022 04:45	24.4	41.0	27.0	20.4
01/10/2022 05:00	33.3	50.3	34.9	21.7
01/10/2022 05:15	33.5	47.8	37.9	22.0
01/10/2022 05:30	37.2	51.3	41.8	26.4
01/10/2022 05:45	36.1	52.1	39.6	26.2
01/10/2022 06:00	33.0	50.0	36.3	26.0
01/10/2022 06:15	35.7	53.9	39.5	27.7
01/10/2022 06:30	36.9	58.0	38.7	30.6
01/10/2022 06:45	41.8	59.1	44.8	33.9
01/10/2022 07:00	41.8	64.3	44.2	31.7
01/10/2022 07:15	40.5	56.5	43.4	34.9
01/10/2022 07:30	42.0	53.4	45.1	34.8
01/10/2022 07:45	41.9	60.2	44.7	34.6
01/10/2022 08:00	41.5	58.9	44.1	34.5
01/10/2022 08:15	46.2	62.5	48.0	40.2
01/10/2022 08:30	45.7	58.4	47.5	41.9
01/10/2022 08:45	45.9	68.5	47.2	42.1
01/10/2022 09:00	45.0	59.5	47.0	41.5



Date/Time	L _{Aeq,T}	L _{Amax}	L _{A10}	L _{A90}
01/10/2022 09:15	44.0	58.5	46.0	40.5
01/10/2022 09:30	43.9	59.7	46.0	40.5
01/10/2022 09:45	47.4	61.2	50.4	41.9
01/10/2022 10:00	48.8	70.1	48.9	42.2
01/10/2022 10:15	51.5	69.3	54.8	43.8
01/10/2022 10:30	48.7	68.8	49.2	43.1
01/10/2022 10:45	47.3	57.7	49.5	43.9
01/10/2022 11:00	49.1	64.6	51.0	44.0
01/10/2022 11:15	49.6	68.2	50.6	43.2
01/10/2022 11:30	45.7	57.8	48.5	41.9
01/10/2022 11:45	49.9	67.5	52.7	43.0
01/10/2022 12:00	46.3	59.9	48.6	42.4
01/10/2022 12:15	46.2	61.2	48.8	41.0
01/10/2022 12:30	46.5	55.2	49.0	42.4
01/10/2022 12:45	47.9	58.3	49.9	44.1
01/10/2022 13:00	50.2	73.7	51.5	42.3
01/10/2022 13:15	45.0	51.7	47.4	41.3
01/10/2022 13:30	46.0	54.6	48.7	41.6
01/10/2022 13:45	46.4	58.1	48.9	42.4
01/10/2022 14:00	49.1	73.9	48.7	43.4
01/10/2022 14:15	45.7	53.5	47.8	42.6
01/10/2022 14:30	47.3	58.9	50.0	43.5
01/10/2022 14:45	48.0	60.6	50.5	43.5
01/10/2022 15:00	49.7	62.1	51.9	46.4
01/10/2022 15:15	48.1	64.2	50.6	44.5
01/10/2022 15:30	53.2	71.2	56.4	45.2
01/10/2022 15:45	49.6	65.3	51.8	44.8
01/10/2022 16:00	49.6	56.5	52.2	46.4
01/10/2022 16:15	47.2	58.9	49.5	43.6
01/10/2022 16:30	47.2	57.1	49.2	43.3
01/10/2022 16:45	49.7	57.5	52.0	46.2
01/10/2022 17:00	44.3	54.2	46.8	40.1
01/10/2022 17:15	43.4	55.9	46.0	39.5
01/10/2022 17:30	42.7	61.3	45.4	37.6
01/10/2022 17:45	42.1	60.2	44.8	36.6
01/10/2022 18:00	42.8	56.5	45.6	37.5
01/10/2022 18:15	48.0	67.3	48.0	35.6



Date/Time	L _{Aeq,T}	L _{Amax}	L _{A10}	L _{A90}
01/10/2022 18:30	44.5	61.7	46.8	39.2
01/10/2022 18:45	44.2	65.9	46.5	38.1
01/10/2022 19:00	39.7	56.0	41.9	34.5
01/10/2022 19:15	39.8	49.5	42.8	34.5
01/10/2022 19:30	40.4	51.4	43.1	35.7
01/10/2022 19:45	41.7	55.8	44.5	35.9
01/10/2022 20:00	40.8	53.3	43.3	35.8
01/10/2022 20:15	38.7	52.0	41.4	33.4
01/10/2022 20:30	38.1	50.0	40.8	33.8
01/10/2022 20:45	38.0	51.0	41.5	29.5
01/10/2022 21:00	35.1	48.7	38.3	28.3
01/10/2022 21:15	35.7	52.0	39.1	29.1
01/10/2022 21:30	37.2	51.2	40.8	29.9
01/10/2022 21:45	40.8	59.7	42.6	31.9
01/10/2022 22:00	38.3	51.1	41.7	32.0
01/10/2022 22:15	39.9	52.0	42.7	34.7
01/10/2022 22:30	37.2	53.1	40.3	31.6
01/10/2022 22:45	39.3	53.0	42.6	31.9
01/10/2022 23:00	34.9	50.2	38.1	29.4
01/10/2022 23:15	36.2	48.2	40.0	29.7
01/10/2022 23:30	35.6	52.5	38.1	29.7
01/10/2022 23:45	33.2	46.8	36.1	29.0
02/10/2022 00:00	34.9	49.0	39.0	26.3
02/10/2022 00:15	30.2	46.9	33.2	25.4
02/10/2022 00:30	40.2	65.9	40.2	27.1
02/10/2022 00:45	36.8	56.1	40.9	28.0
02/10/2022 01:00	28.1	44.5	30.1	23.5
02/10/2022 01:15	29.3	45.0	32.2	22.6
02/10/2022 01:30	30.9	51.1	33.7	21.3
02/10/2022 01:45	29.6	45.9	31.1	24.2
02/10/2022 02:00	25.4	40.5	26.8	21.7
02/10/2022 02:15	30.0	48.5	32.1	20.9
02/10/2022 02:30	25.0	45.2	26.6	21.4
02/10/2022 02:45	41.4	67.9	38.9	21.2
02/10/2022 03:00	28.4	48.5	30.8	20.0
02/10/2022 03:15	32.0	62.7	27.3	20.0
02/10/2022 03:30	37.3	63.2	23.5	20.0



Date/Time	L _{Aeq,T}	L _{Amax}	L _{A10}	L _{A90}
02/10/2022 03:45	22.6	37.8	25.2	20.0
02/10/2022 04:00	26.3	51.6	29.7	20.0
02/10/2022 04:15	23.7	37.0	27.6	20.0
02/10/2022 04:30	23.3	47.0	24.0	20.0
02/10/2022 04:45	29.5	41.0	33.6	20.0
02/10/2022 05:00	27.9	41.4	32.1	20.0
02/10/2022 05:15	32.8	51.3	37.0	20.0
02/10/2022 05:30	32.3	45.5	36.6	21.7
02/10/2022 05:45	36.3	49.8	40.4	23.9
02/10/2022 06:00	35.5	53.1	38.2	22.3
02/10/2022 06:15	33.8	53.1	37.6	24.5
02/10/2022 06:30	38.9	59.3	38.1	25.2
02/10/2022 06:45	39.4	66.0	41.1	29.8
02/10/2022 07:00	35.0	49.7	38.2	27.7
02/10/2022 07:15	39.7	58.5	43.2	30.4
02/10/2022 07:30	34.0	52.5	36.9	27.6
02/10/2022 07:45	37.6	56.2	40.7	28.4
02/10/2022 08:00	37.7	60.4	40.6	29.3
02/10/2022 08:15	43.7	64.2	45.6	31.0
02/10/2022 08:30	38.2	60.0	40.1	32.6
02/10/2022 08:45	40.2	52.0	43.1	34.8
02/10/2022 09:00	40.5	59.9	43.2	33.3
02/10/2022 09:15	39.7	53.1	42.3	34.8
02/10/2022 09:30	39.3	58.2	41.6	34.6
02/10/2022 09:45	40.4	60.7	43.3	34.5
02/10/2022 10:00	48.2	70.7	48.6	35.3
02/10/2022 10:15	49.7	68.3	52.7	34.2
02/10/2022 10:30	47.8	68.5	48.5	33.1
02/10/2022 10:45	48.8	69.0	51.4	32.2
02/10/2022 11:00	48.8	70.2	51.4	32.0
02/10/2022 11:15	45.1	65.2	44.9	31.9
02/10/2022 11:30	44.6	65.1	44.6	32.1
02/10/2022 11:45	42.3	60.3	45.8	33.7
02/10/2022 12:00	42.0	60.6	44.2	33.4
02/10/2022 12:15	43.9	64.9	43.0	34.1
02/10/2022 12:30	45.7	67.5	48.1	32.9
02/10/2022 12:45	43.3	68.8	41.8	32.8



Date/Time	L _{Aeq,T}	L _{Amax}	L _{A10}	L _{A90}
02/10/2022 13:00	41.1	60.8	41.4	32.9
02/10/2022 13:15	43.5	66.3	45.9	32.8
02/10/2022 13:30	41.0	59.9	43.3	32.8
02/10/2022 13:45	42.6	56.8	46.4	33.1
02/10/2022 14:00	39.9	58.6	39.7	33.7
02/10/2022 14:15	41.5	59.7	44.6	34.4
02/10/2022 14:30	38.1	51.9	40.6	32.9
02/10/2022 14:45	40.1	60.6	40.7	33.3
02/10/2022 15:00	40.3	61.1	39.3	31.5
02/10/2022 15:15	38.5	56.4	42.7	32.1
02/10/2022 15:30	34.5	51.3	36.2	30.6
02/10/2022 15:45	38.1	59.2	40.5	32.6
02/10/2022 16:00	36.5	56.1	38.5	31.6
02/10/2022 16:15	35.3	58.3	36.9	30.2
02/10/2022 16:30	42.5	66.0	40.1	31.4
02/10/2022 16:45	42.9	66.6	42.6	31.6
02/10/2022 17:00	40.6	71.5	41.8	31.9
02/10/2022 17:15	35.6	47.7	38.3	31.8
02/10/2022 17:30	39.2	53.9	42.8	31.7
02/10/2022 17:45	41.1	62.1	41.7	32.0
02/10/2022 18:00	39.0	63.6	42.6	31.0
02/10/2022 18:15	39.0	57.0	43.6	31.3
02/10/2022 18:30	37.0	51.1	40.0	30.3
02/10/2022 18:45	38.8	63.8	42.6	30.7
02/10/2022 19:00	36.1	54.0	38.5	29.5
02/10/2022 19:15	39.4	61.0	42.7	32.8
02/10/2022 19:30	36.1	44.3	38.5	31.8
02/10/2022 19:45	38.4	46.3	40.8	34.9
02/10/2022 20:00	39.2	57.3	41.1	35.3
02/10/2022 20:15	38.5	50.9	40.9	34.7
02/10/2022 20:30	39.7	52.5	42.9	33.8
02/10/2022 20:45	38.9	48.8	42.5	32.7
02/10/2022 21:00	39.5	48.2	42.6	34.1
02/10/2022 21:15	39.7	48.1	42.6	33.9
02/10/2022 21:30	38.6	49.2	41.1	34.2
02/10/2022 21:45	39.2	48.7	42.3	33.9
02/10/2022 22:00	39.2	50.8	43.2	32.4



Date/Time	L _{Aeq,T}	L _{Amax}	L _{A10}	L _{A90}
02/10/2022 22:15	37.5	49.5	40.5	33.0
02/10/2022 22:30	38.6	53.2	41.5	34.3
02/10/2022 22:45	37.6	47.4	40.2	34.2
02/10/2022 23:00	37.9	46.9	41.0	32.5
02/10/2022 23:15	36.9	48.7	39.3	31.9
02/10/2022 23:30	36.6	52.8	40.1	28.4
02/10/2022 23:45	36.1	49.1	39.6	28.3
03/10/2022 00:00	36.5	49.3	41.2	27.1
03/10/2022 00:15	49.7	67.9	42.6	29.0
03/10/2022 00:30	28.9	42.0	30.7	25.7
03/10/2022 00:45	42.8	66.1	42.0	28.4
03/10/2022 01:00	31.8	46.3	32.3	27.9
03/10/2022 01:15	31.7	48.2	34.4	26.5
03/10/2022 01:30	41.7	56.3	45.4	27.5
03/10/2022 01:45	31.4	38.1	33.3	29.0
03/10/2022 02:00	32.5	43.4	33.5	30.5
03/10/2022 02:15	33.5	43.6	35.0	30.3
03/10/2022 02:30	35.2	42.0	36.5	33.7
03/10/2022 02:45	35.2	47.5	37.1	31.9
03/10/2022 03:00	35.1	47.7	37.0	32.1
03/10/2022 03:15	34.2	45.3	36.1	30.9
03/10/2022 03:30	33.0	46.0	34.2	30.3
03/10/2022 03:45	34.8	48.6	37.0	30.5
03/10/2022 04:00	40.0	57.2	44.3	30.1
03/10/2022 04:15	37.2	49.2	40.2	32.1
03/10/2022 04:30	37.8	51.5	40.3	32.8
03/10/2022 04:45	39.3	50.5	42.6	32.6
03/10/2022 05:00	40.1	51.0	43.8	34.1
03/10/2022 05:15	43.1	52.9	46.7	36.1
03/10/2022 05:30	43.6	53.2	46.9	37.6
03/10/2022 05:45	44.0	56.9	46.6	38.5
03/10/2022 06:00	43.9	55.0	46.4	39.3
03/10/2022 06:15	44.9	58.8	47.1	41.1
03/10/2022 06:30	46.0	60.2	48.1	41.8
03/10/2022 06:45	46.8	57.1	48.9	44.1
03/10/2022 07:00	48.3	58.2	50.4	45.1
03/10/2022 07:15	49.0	56.4	50.9	46.4



Date/Time	L _{Aeq,T}	L _{Amax}	L _{A10}	L _{A90}
03/10/2022 07:30	49.4	63.1	50.9	47.1
03/10/2022 07:45	49.7	62.2	51.3	47.3
03/10/2022 08:00	48.9	65.6	50.5	46.3
03/10/2022 08:15	48.6	61.0	50.4	45.5
03/10/2022 08:30	47.1	57.2	48.7	44.9
03/10/2022 08:45	47.7	68.2	46.5	43.1
03/10/2022 09:00	45.2	56.6	46.6	42.9
03/10/2022 09:15	45.1	65.0	46.2	42.5
03/10/2022 09:30	44.2	64.2	46.1	40.3
03/10/2022 09:45	42.2	51.4	43.7	39.9
03/10/2022 10:00	44.0	64.6	45.0	38.7
03/10/2022 10:15	42.8	57.2	45.1	38.9
03/10/2022 10:30	44.1	57.8	47.1	39.3
03/10/2022 10:45	42.5	55.5	45.9	37.2
03/10/2022 11:00	41.8	58.1	44.7	36.1
03/10/2022 11:15	42.6	59.9	44.8	36.1
03/10/2022 11:30	43.5	60.0	47.3	36.8
03/10/2022 11:45	43.1	56.1	46.7	37.9
03/10/2022 12:00	45.2	68.4	46.5	37.1
03/10/2022 12:15	41.6	60.5	44.1	36.4
03/10/2022 12:30	46.2	65.8	46.8	39.1
03/10/2022 12:45	46.1	67.2	47.4	37.9
03/10/2022 13:00	44.6	56.9	47.5	39.5
03/10/2022 13:15	50.1	68.1	50.8	40.1
03/10/2022 13:30	44.5	54.7	46.8	40.8
03/10/2022 13:45	45.6	64.5	47.9	40.9
03/10/2022 14:00	46.0	57.6	48.1	43.0
03/10/2022 14:15	45.6	61.1	47.8	41.4
03/10/2022 14:30	46.2	58.3	48.3	42.7
03/10/2022 14:45	46.3	64.8	48.4	41.8
03/10/2022 15:00	46.5	62.3	48.7	42.0
03/10/2022 15:15	47.6	59.7	49.7	44.5
03/10/2022 15:30	46.6	53.9	49.0	42.8
03/10/2022 15:45	54.3	74.9	52.3	42.1
03/10/2022 16:00	49.5	65.6	52.4	44.2
03/10/2022 16:15	46.5	55.8	49.0	43.0
03/10/2022 16:30	46.9	62.5	49.0	43.3

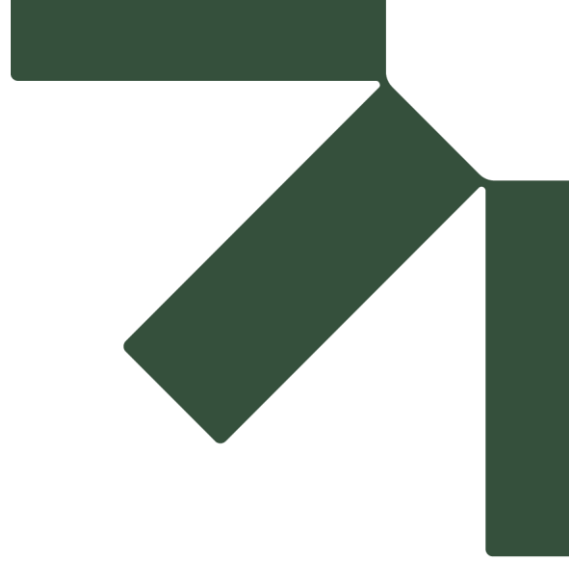


Date/Time	L _{Aeq,T}	L _{Amax}	L _{A10}	L _{A90}
03/10/2022 16:45	52.3	66.7	54.3	43.6
03/10/2022 17:00	48.2	63.3	50.0	44.1
03/10/2022 17:15	47.7	57.9	50.2	43.3
03/10/2022 17:30	46.4	59.2	49.0	42.2
03/10/2022 17:45	43.5	57.6	46.2	38.8
03/10/2022 18:00	48.0	66.1	47.9	38.9
03/10/2022 18:15	43.9	59.6	46.6	39.2
03/10/2022 18:30	46.0	67.4	46.8	39.4
03/10/2022 18:45	43.0	56.2	45.6	37.4
03/10/2022 19:00	40.6	56.8	43.0	36.0
03/10/2022 19:15	39.4	49.5	42.1	35.1
03/10/2022 19:30	40.0	50.1	42.8	34.7
03/10/2022 19:45	39.5	48.5	42.6	33.4
03/10/2022 20:00	40.4	51.7	43.8	33.4
03/10/2022 20:15	38.2	53.6	41.9	29.3
03/10/2022 20:30	36.2	48.5	40.3	28.7
03/10/2022 20:45	36.2	48.1	40.7	27.8
03/10/2022 21:00	35.3	50.3	38.5	28.9
03/10/2022 21:15	34.8	47.2	38.1	27.8
03/10/2022 21:30	37.3	51.5	41.3	27.5
03/10/2022 21:45	36.3	50.8	39.8	28.1
03/10/2022 22:00	35.4	51.2	38.9	26.7
03/10/2022 22:15	35.2	51.8	38.2	28.6
03/10/2022 22:30	34.9	53.0	37.4	24.9
03/10/2022 22:45	31.8	44.3	35.6	20.7
03/10/2022 23:00	33.0	46.9	37.3	20.6
03/10/2022 23:15	35.3	48.8	40.0	25.0
03/10/2022 23:30	28.6	43.2	32.4	21.6
03/10/2022 23:45	25.7	40.2	29.3	20.0
04/10/2022 00:00	29.7	44.2	33.3	22.3
04/10/2022 00:15	30.2	46.2	32.9	20.0
04/10/2022 00:30	27.0	46.6	30.9	20.0
04/10/2022 00:45	24.6	39.3	28.0	20.0
04/10/2022 01:00	44.9	71.8	28.3	20.0
04/10/2022 01:15	28.6	51.3	29.4	20.0
04/10/2022 01:30	20.7	33.7	22.3	20.0
04/10/2022 01:45	27.1	48.4	27.2	20.0



Date/Time	L _{Aeq,T}	L _{Amax}	L _{A10}	L _{A90}
04/10/2022 02:00	25.6	45.1	23.1	20.0
04/10/2022 02:15	27.8	55.4	28.5	20.8
04/10/2022 02:30	25.0	43.4	28.1	20.0
04/10/2022 02:45	28.8	45.1	32.7	20.0
04/10/2022 03:00	24.0	38.4	26.8	20.0
04/10/2022 03:15	32.4	58.1	27.2	20.3
04/10/2022 03:30	26.5	39.1	28.8	22.1
04/10/2022 03:45	29.3	45.2	31.9	25.4
04/10/2022 04:00	29.9	55.4	30.3	25.5
04/10/2022 04:15	27.6	42.2	30.6	22.4
04/10/2022 04:30	32.1	46.3	34.8	26.5
04/10/2022 04:45	35.1	49.6	38.8	27.4
04/10/2022 05:00	32.5	47.0	34.8	27.3
04/10/2022 05:15	39.2	63.8	40.4	28.9
04/10/2022 05:30	39.4	53.7	42.8	31.3
04/10/2022 05:45	37.7	51.3	41.4	28.9
04/10/2022 06:00	37.5	50.0	40.6	32.3
04/10/2022 06:15	38.2	51.8	41.2	33.2
04/10/2022 06:30	41.3	58.3	44.3	36.1
04/10/2022 06:45	48.6	72.7	46.3	37.3
04/10/2022 07:00	45.8	59.6	48.5	40.2
04/10/2022 07:15	47.2	68.3	48.8	42.3
04/10/2022 07:30	46.4	56.7	49.0	41.9
04/10/2022 07:45	46.6	59.4	49.2	42.1





Appendix E Histograms

Figure 1
Location One $L_{A90,15min}$ Histogram of Background Sound Levels

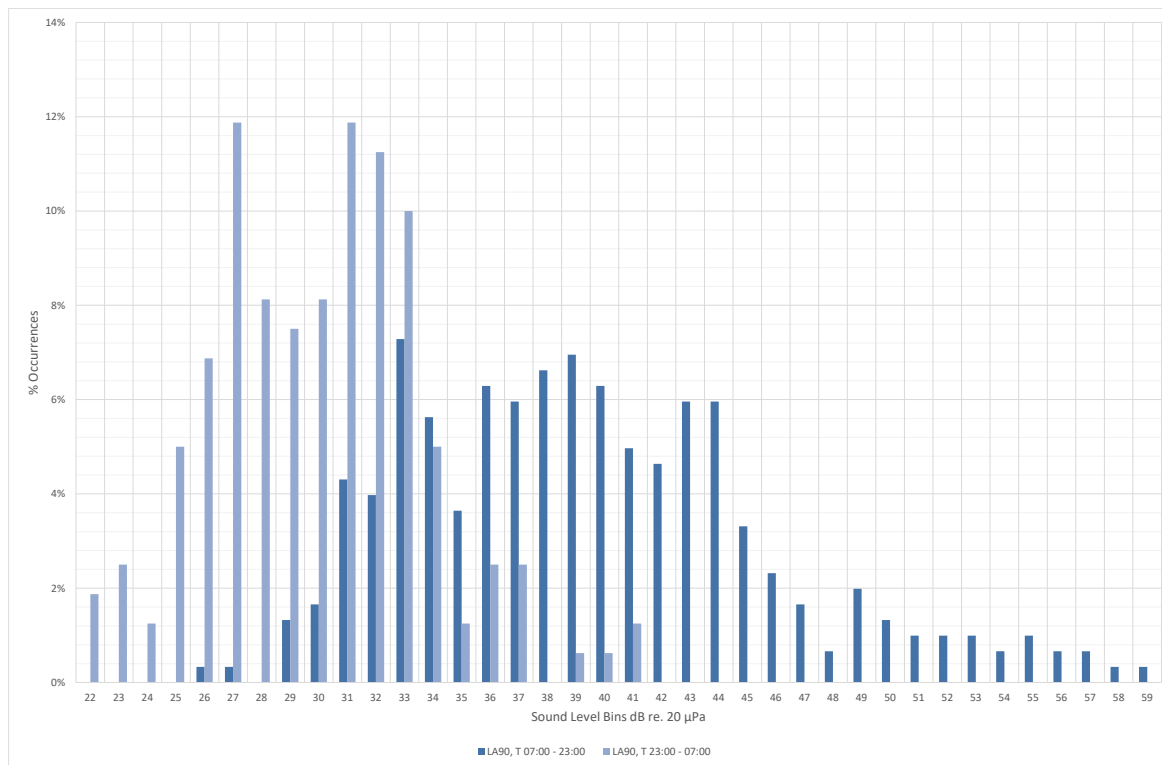


Figure 3
Location One $L_{Aeq,15min}$ Histogram of Residual Sound Levels

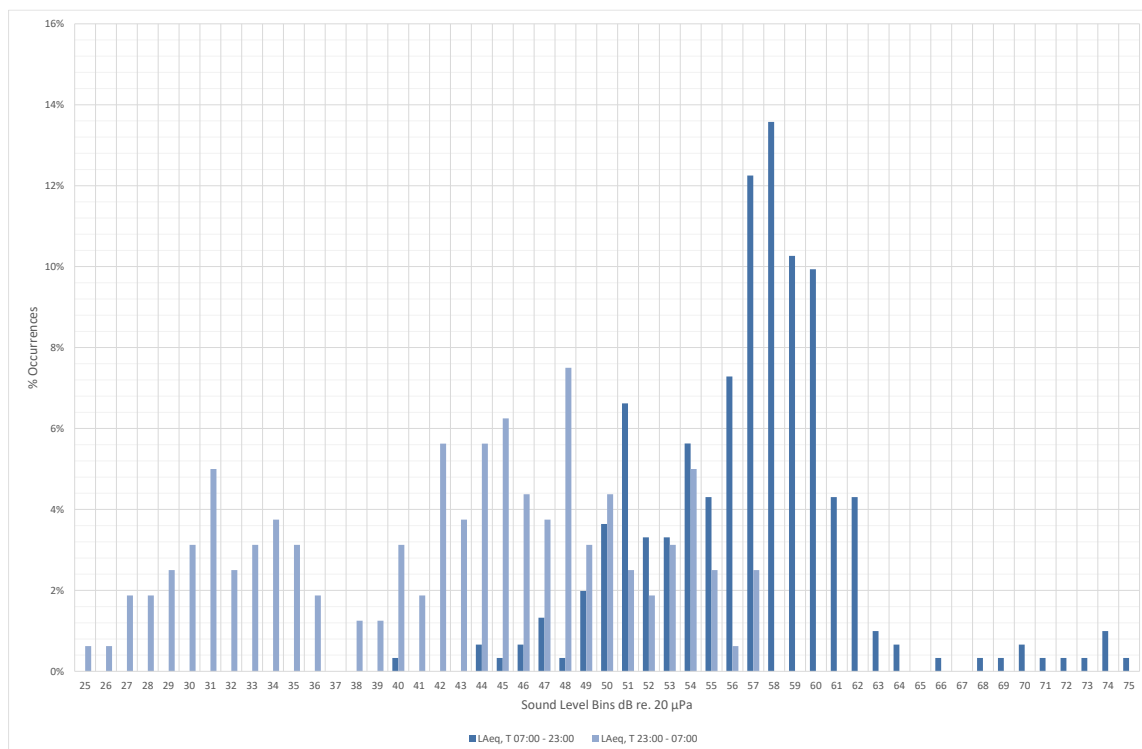


Figure 2
Location Two $L_{A90,15 \text{ min}}$ Histogram of Background Sound Levels

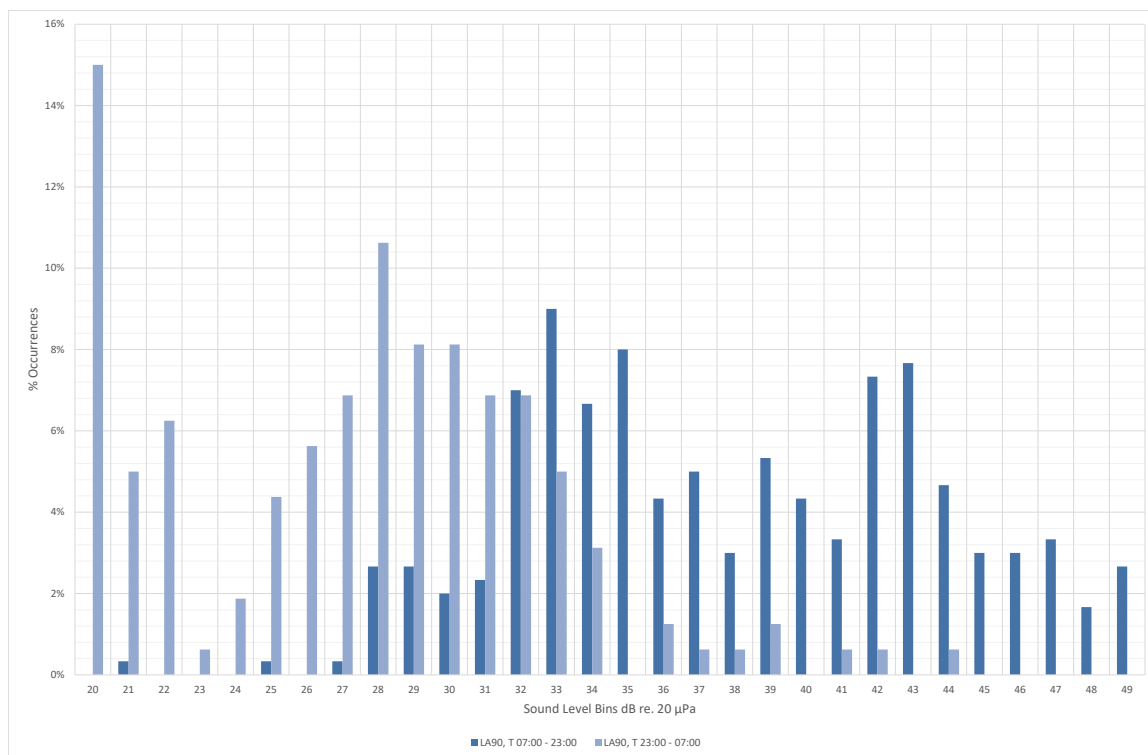
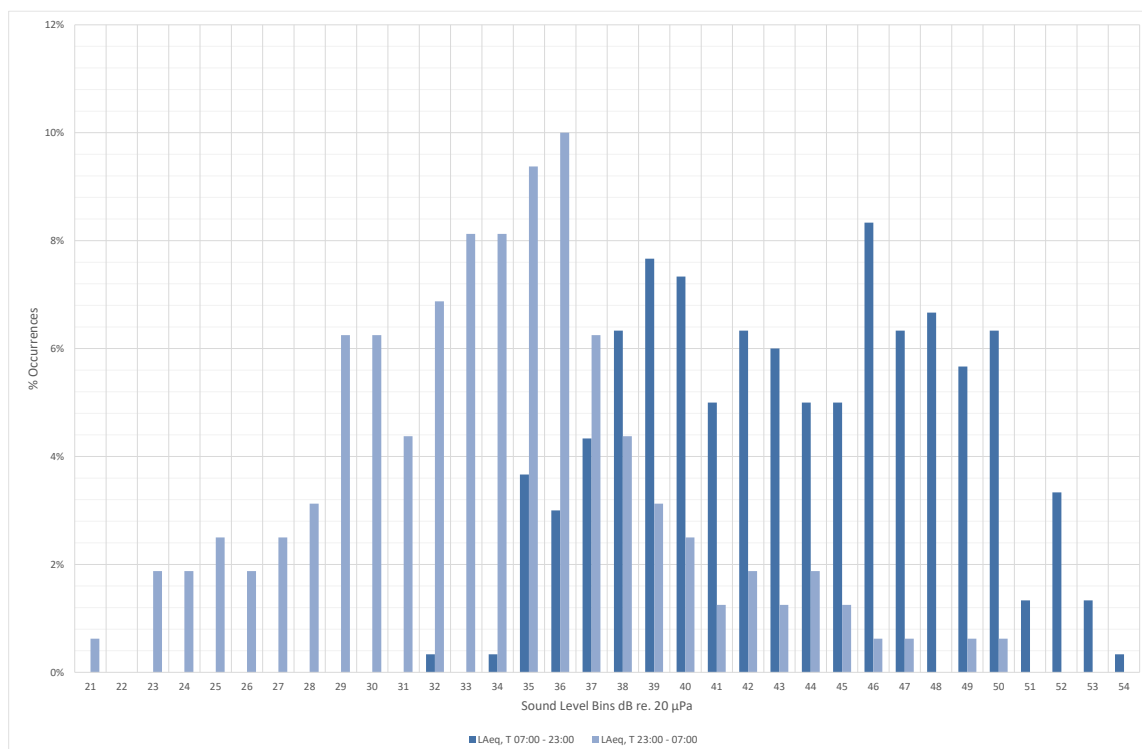


Figure 4
Location Two $L_{A90,15 \text{ min}}$ Histogram of Residual Sound Levels





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