



REPORT REFERENCE:

SA - 6018

ENVIRONMENTAL NOISE IMPACT ASSESSMENT

British Standard 8233: 2014

CLIENT:

Hampshire County Council

SITE:

Hamilton Road Children's Centre

135 Bulmershe Road

Reading

Berkshire

RG1 5SG

SURVEY DATES:

9th - 11th May 2019

Report By	
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1 EXECUTIVE SUMMARY

1.1 Instruction

Sound Advice Acoustics Ltd have been instructed by Hampshire County Council to attend site at Hamilton Road Children's Centre, 135 Bulmershe Road, Reading, Berkshire, RG1 5SG and give advice on the acoustic elements relating to the proposed project.

1.2 Scope of Report

The acoustic assessments are to be separated into two sections. The external noise assessments and the internal noise assessment will examine the proposed building structures and comment on any improvements in order to comply with the relevant criteria's within The Building Regulation 2003 Approved Document E Part E4, referring to Building Bulletin 93.

This initial report will deal with the external assessment and review the external façade construction details. From the recorded data, the average and highest recorded levels are to be evaluated. Daytime (08:00 hrs – 17:00 hrs). The daytime hours represent the period the school will be in use for normal teaching of children.

1.3 Summary of Results

1.3.1 Background Noise Levels

A 48 hour background noise survey was undertaken from 9th - 11th May 2019 at one position (front of site) in order to establish the underlying background noise levels. The maximum day time levels were found to be $L_{Aeq, 9 \text{ hour}}$ 49.2 dB and the background noise level found to be $L_{A90, 9 \text{ hour}}$ 40.0 dB.

Assessment Position	Date Start	Date Finish	Daytime LAeq	Daytime LA90
Position 1 Front	09/05/2019	11/05/2019	49.2	40.0

1.4 Proposed Plant Criteria

Calculations and assessments are to be made within this report to generate a maximum noise level criteria to which all plant should be selected to. The maximum noise level calculated is to be achieved at 1.0m & 10m from the units in situ with all units operating under normal load.

The following calculations have been based on the recorded LA90 background noise level over a typical 24 hour period at the measurement position 1 and the plant should be switched off before 23:00 hrs.

The above calculations have demonstrated that in order to meet the criteria of +/- 0dB below the recorded background noise level, the following external noise level plant criteria should be achieved at 1.0m and 10m from all units operating at the same time under normal load.

DAY TIME 08:00 – 17:00

Octave Band Centre Frequency (Hz)										dB(A)	Comments
31.5	63	125	250	500	1.0k	2.0k	4.0k	8.0k	16.0k		
74.5	74.5	71.5	69.5	65.5	59.5	54.5	52.5	49.5	32.5	67	Calculated Noise Source Level @ 1.0m
54.5	54.5	51.5	49.5	45.5	39.5	34.5	32.5	29.5	12.5	47	Calculated Noise Source Level @ 10.0m
Sound Pressure Level at 1.0m from plant (ref 2 x 10 ⁻⁵ Pa)											

The above calculations have been made on the worst case scenario with the plant being positioned no closer than 75.0m (linear) to the nearest affected window.

1.5 Operation of the Site

On the longest day the site is likely to be operational between 8am – 5pm. Therefore, a day time assessment has been undertaken to cover this period.

1.6 Conclusions

The development should be designed with a 6mm glass / 16mm air gap / 6mm glass double glazed windows and a standard through frame slot vent or similarly approved to all rooms to ensure the internal noise levels are acceptable in terms of the assessment to British Standard 8233: 2014.

Levels have been recorded and assessments made in accordance with the relevant standards. Internal criteria's have been set and calculations made in order to determine the minimum construction details required in order to meet the desired level within the proposed residential dwellings and satisfy the local council's requirements.

2 INTRODUCTION

Sound Advice Acoustics Ltd have been instructed by Hampshire County Council to attend site at Hamilton Road Children's Centre, 135 Bulmershe Road, Reading, Berkshire, RG1 5SG and give advice on the acoustic elements relating to the proposed project.

Ambient noise levels were measured between 9th – 11th May 2019. This report by Sound Advice Acoustics Ltd gives the results of these measurements and an assessment in accordance with government planning guidelines and relevant standards together with mitigation measures as required.

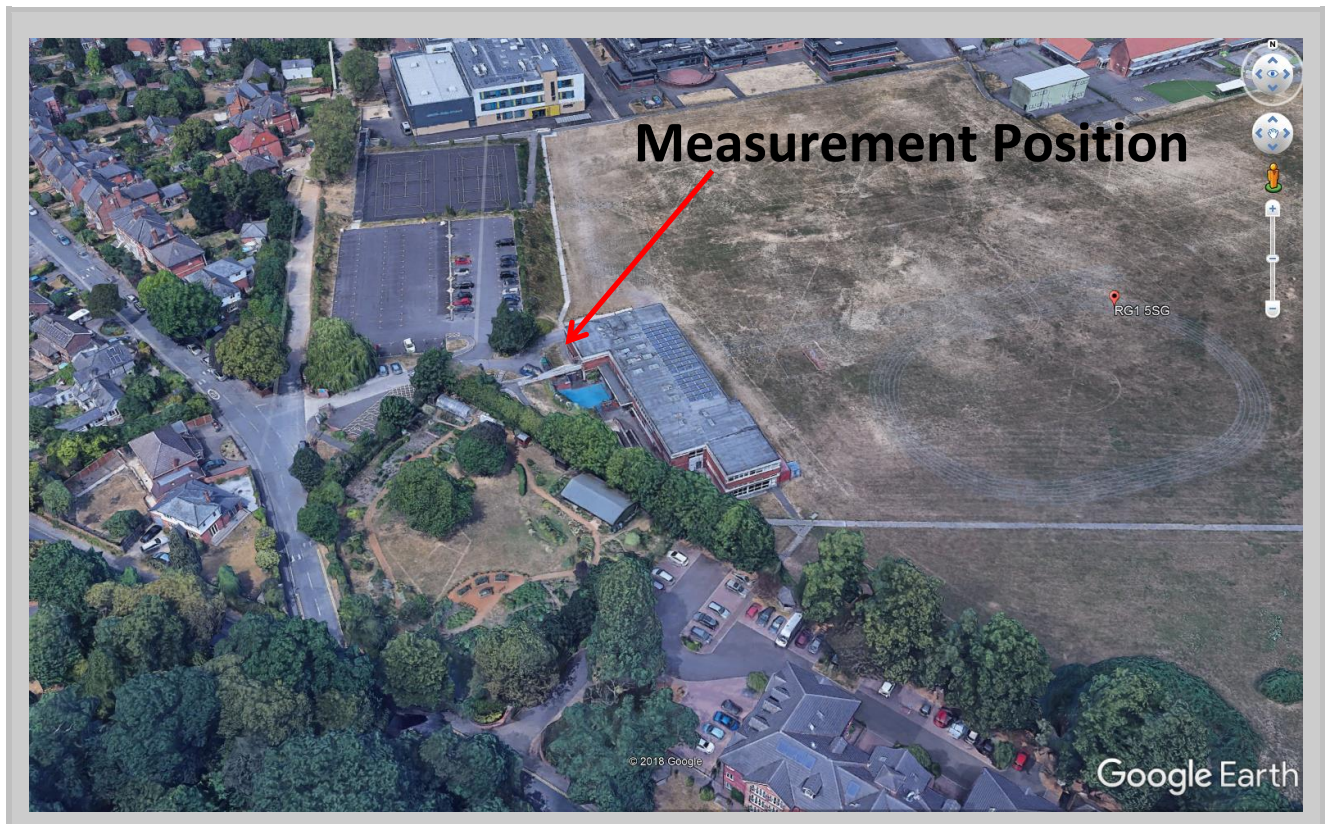
With regards to external ambient noise, environmental noise levels are to be monitored at the site in accordance with British Standard 7445: 2003 'Description and measurement of environmental noise assessments and calculation made in accordance with BS 8233: 2014 Sound Insulation and Noise Reduction for Buildings Code of Practice.

The external noise assessments and the internal noise assessment will examine the proposed building structures and comment on any improvements in order to comply with the relevant criteria's within The Building Regulation 2003 Approved Document E Part E4, referring to Building Bulletin 93.

3 SITE LOCATION

Position of Site in Wider Area

The site is located in Reading. The dominant noise source is road traffic noise.



4 PROCEDURE

External noise levels were recorded over a typical period and analysis date extrapolated between 08:00 hrs 9th – and 17:00 hrs on 11th May 2019 at position 1 as detailed on the attached plan sketch layout.

Position 1 was located at the front façade of the site in order to capture the noise levels associated with the nearby roads. Sample measurements were recorded over continuous 15 minute samples and from this data the hourly LAeq daytime values have been evaluated. Sound Pressure Levels were recorded on the following setting along with a full octave band frequency analysis measured simultaneously and between 31.5 Hz and 16.0 kHz.

Daytime 08:00 – 17:00

L _{Aeq} 1 HOUR dB	L _{A10} 1 HOUR dB
L _{AMAX} 1 HOUR dB	L _{A50} 1 HOUR dB
L _{AMIN} 1 HOUR dB	L _{A90} 1 HOUR dB

Calculations have been made in accordance with BS 8233: 2014 'Sound Insulation and Reduction of Buildings - Code of Practice'. Recommendations were made for any additional acoustics measures to conform to these standards.

From the downloaded recorded results, the daytime and night time periods were assessed and used within the above calculations as L_{Aeq} 9 HOUR dB levels for daytime. These are detailed within this report. All data averaged throughout the day has been done so on a logarithmic basis to give accurate L_{Aeq} 9 Hour dB daytime levels.

Finally, it should be noted that calculations are carried out with façade levels corrected from the recorded noise levels to the calculated façade levels.

5 APPARATUS

The equipment was calibrated using a sound pressure level of 114.0 dB at an octave band centre frequency of 1000Hz with reference to $2 \times 10^{-5} \text{ Nm}^{-2}$ before and after the tests and the equipment set to have no inaccuracy greater than 0.2dB.

All the following equipment was calibrated in accordance with the laboratory accreditation requirements of the United Kingdom Accreditation Service (UKAS) on the following dates. Calibration schedules are implemented within Sound Advice Acoustics Ltd in accordance with UKAS directive LAB 23.

5.1 118 noise meter s/n 11831632 environmental testing

Description	Make	Type	Serial No.	Calibration Intervals	Last Calibrated	Next Due Calibration
Integrated Sound Level Meter	Norsonic	118	<u>31632</u>	2 YEARS	01.05.2018	01.05.2020
12.5mm Microphone (with windshield)	Norsonic	1225	<u>91720</u>	2 YEARS	01.05.2018	01.05.2020
Microphone Pre – Amplifier	Norsonic	1201	<u>29307</u>	2 YEARS	01.05.2018	01.05.2020

Full calibration certificates are available upon request.

6 RESULTS

$L_{Aeq,t}$ -	The equivalent A weighted sound pressure level recorded over a time interval of 5 minutes night time and 1 hourly daytime.
$L_{A90,t}$ -	The A weighted sound pressure level that is exceeded for 90% of the time period 5 minutes night time and 1 hourly daytime.
L_{Amax} -	The maximum A weighted sound pressure level recorded over a time interval of 5 minutes night time and 1 hourly daytime.

6.1 Downloaded Ambient Results.

Date / Time	LAeq	LAmx	31.5	63	125	250	500	1.0k	2.0k	4.0k	8.0k	16.0k
DAYTIME 08:00 - 17:00 LAeq 16 HOUR & Corresponding LAmx 16 HOUR	49.2	70.7	59.8	56.9	55.4	50.9	46.3	42.8	38.6	36.7	35.9	24.8

Date / Time	LAeq	LAmx	31.5	63	125	250	500	1.0k	2.0k	4.0k	8.0k	16.0k
DAYTIME 08:00 - 17:00 LAeq 16 HOUR & Corresponding LAmx 16 HOUR	46.0	67.9	56.1	54.9	51.7	48.1	43.7	39.2	34.3	32.9	31.7	14.0

6.2 Downloaded Background Results.

Date / Time	LAeq	LA90	31.5	63	125	250	500	1.0k	2.0k	4.0k	8.0k	16.0k
DAYTIME 08:00 - 17:00 LAeq 16 HOUR & Corresponding LAmx 16 HOUR	49.0	44.0	58.0	55.0	54.0	47.0	44.0	43.0	41.0	39.0	40.0	31.0

Date / Time	LAeq	LA90	31.5	63	125	250	500	1.0k	2.0k	4.0k	8.0k	16.0k
DAYTIME 08:00 - 17:00 LAeq 16 HOUR & Corresponding LAmx 16 HOUR	49.0	40.0	57.0	57.0	54.0	52.0	48.0	42.0	37.0	35.0	32.0	15.0

7 INTERNAL CRITERIA

Building Bulletin 93, Section 1, Table 1.1 sets individual internal LAeq 30 minute dB noise criteria for each type of room within these types of developments. Each relevant external room and each façade has been designated a criteria generally as follows:-

7.1 First Floor

Room Description	BB93 Maximum Internal Criteria	
	L _{Aeq} 30 MINUTES dB	Predicted Internal Levels
Music/Drama	40	19.7
Group Room	45	24.5
LRC	45	21.2
Office	45	23.3
Medical Inspection	45	23.2
Life Skills	45	20.4
Food Tech	45	20.8
Science Rm 63	45	21.1
Science Rm 65	45	22.2
Classroom Rm 69	40	22.2
Classroom Rm 70	40	22.2
Classroom Rm 75	40	22.2
Staff Room	45	22.2

7.2 Ground Floor

Room Description	BB93 Maximum Internal Criteria	Predicted Internal Levels
	L_{Aeq} 30 MINUTES dB	
Art	45	19.4
DT	45	19.8
Room 27	40	21.5
Room 12 / 13 & 18	40	21.7
Meeting Room	45	21.7
Dining	50	23.8
Hall	40	15.8
Parent Room	45	24.0
Foyer	50	26.0
Head Teacher	45	23.6
Visiting Therapist	45	23.1
Therapy	45	23.1
Sensory Room	35	26.0

8 RECOMMENDATIONS

For the purpose of this assessment, the corresponding façade levels will be used within the BS 8233: 2014 calculations in order to evaluate the worst case scenario and select the correct window specification.

Therefore, in order to achieve the required noise levels of $L_{Aeq\ 16\ HOUR}$ 35 dB for habitable rooms daytime and $L_{Aeq\ 8\ HOUR}$ 30 dB for Bedroom at night within the proposed, the following additional acoustic measures have been calculated.

It should be noted that the calculations have been made with the proposed windows closed. Additional calculations were made for the top floor due to the influence of sound transmission into the various rooms via the roof / ceiling i.e. an increased impeding façade. Inputted levels into the calculation sheets have been corrected for distance attenuation and free field in accordance with the aforementioned British Standard.

9 MINIMUM CONSTRUCTION SPECIFICATIONS

9.1 Ventilation (D_{ne})

Octave Band Frequency	125	250	500	1000	2000	4000	$D_{ne}'w$
Standard through frame slot vent	33.0	32.0	29.0	29.0	31.0	33.0	31

9.2 Glazing (R_{wi})

Octave Band Frequency	125	250	500	1000	2000	4000	R_w dB
6mm glass / 16mm air gap / 6mm glass	19.0	19.0	37.0	44.0	44.0	51.0	35

9.3 Walls (R_{ew})

Octave Band Frequency	125	250	500	1000	2000	4000	R_w dB
Brick and Concrete Block	40.0	44.0	45.0	51.0	56.0	61.0	50

9.4 Roof (R_{rr})

Octave Band Frequency	125	250	500	1000	2000	4000	R_w dB
Minimum Value	28.0	34.0	40.0	45.0	49.0	49.0	44

The above are minimum construction attenuation values and should alternative methods be selected; these should be equal to or greater than the above corresponding values. Calculations carried out have indicated the following specifications should be installed for this site

10 CALCULATIONS

The following calculations have been based on the recorded LA90 background noise level over a typical 24 hour period at the measurement position 1 and include the possibility of night time operations.

DAYTIME 08:00 – 17:00

Octave Band Centre Frequency (Hz)										dB(A)	Comments
31.5	63	125	250	500	1.0k	2.0k	4.0k	8.0k	16.0k		
57.0	57.0	54.0	52.0	48.0	42.0	37.0	35.0	32.0	15.0		Recorded Background Noise Levels
3	3	3	3	3	3	3	3	3	3		Reflection at Residential
5	5	5	5	5	5	5	5	5	5		BS 4142 : 2014 Corrections
9	9	9	9	9	9	9	9	9	9		L _{Aeq} - LA90
37.5	37.5	37.5	37.5	37.5	37.5	37.5	37.5	37.5	37.5		Distance Correction
0	0	0	0	0	0	0	0	0	0		Barrier Attenuation
3	3	3	3	3	3	3	3	3	3		Reflection at Source
43.0	43.0	40.0	38.0	34.0	28.0	23.0	21.0	18.0	1.0	35	Target Level at Residential
6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0		Reflections
37.5	37.5	37.5	37.5	37.5	37.5	37.5	37.5	37.5	37.5		Distance and Barriers
74.5	74.5	71.5	69.5	65.5	59.5	54.5	52.5	49.5	32.5	67	Calculated Noise Source Level @ 1.0m
54.5	54.5	51.5	49.5	45.5	39.5	34.5	32.5	29.5	12.5	47	Calculated Noise Source Level @ 10.0m

The above calculations have demonstrated that in order to meet the criteria of +/- 0 dB below the recorded background noise level, the following external noise level plant criteria should be achieved at 1.0m and 10.0m from all units operating at the same time under normal load.

DAYTIME 08:00 – 17:00

Octave Band Centre Frequency (Hz)										dB(A)	Comments
31.5	63	125	250	500	1.0k	2.0k	4.0k	8.0k	16.0k		
74.5	74.5	71.5	69.5	65.5	59.5	54.5	52.5	49.5	32.5	67	Calculated Noise Source Level @ 1.0m
54.5	54.5	51.5	49.5	45.5	39.5	34.5	32.5	29.5	12.5	47	Calculated Noise Source Level @ 10.0m

Sound Pressure Level at 1.0m from plant (ref 2 x 10⁻⁵ Pa)

The above calculations have been made on the worst case scenario with the plant being positioned no closer than 75.0m (linear) to the nearest affected window.

Based on the above being achieved, the following noise assessment can be concluded.

11 BS4142: 2014 NOISE ASSESSMENT

11.1 Scope of British Standard 4142: 2014

In the assessment of the existing surrounding commercial premises, consideration has been given to the scope of British Standard 4142: 2014, which in section 1, details applicability of this standard to rating assessing sound of an industrial and/or commercial nature. It is considered appropriate that both the background noise levels and the rating noise levels obtained fall within the scope of British Standard 4142: 2014 by using outdoor sound levels to assess the effect of sound on local residents.

11.2 Terms and Definitions

Symbol	Term	Definition
AP	Assessment Position	Position externally at the façade property under investigation at which the assessment is undertaken which is usually 1m from the 1 st floor bedroom window.
EP	Equivalent Position	Position at which the background noise levels are measured if there is no access to the assessment position or if source under investigation is audible.
$L_s = L_{Aeq, T}$	Specific Level	The average continuous equivalent sound pressure level of the source at the assessment position.
$L_{Ar, Tr}$	Rating Level	The average continuous equivalent sound pressure level of the source at the assessment position with a correction to account for the characteristic features.
$L_r = L_{Aeq, T}$	Residual Level	The average continuous equivalent sound pressure level at the assessment position without the source operating.
$L_{A90, T}$	Background Level	The sound pressure level that is not exceeded 90% of the time at the assessment position.
$L_a = L_{Aeq, T}$	Ambient Level	The totally encompassing sound at the assessment position including the residual and specific noise.

11.3 Assessment Position

The assessment position was established as the residential property at 144 Hamilton Road to the South West of the site located no closer than 75.0m from any proposed plant.

11.4 Calculations

The specific noise levels are calculated at the assessment position located at the residential property 144 Hamilton Road using the calculations detailed within ISO 9613 Part 1 and 2: 1996. These calculations take the manufacturers sound power levels into account for a variety of factors including source directivity, distance, atmospheric absorption, ground absorption and the effects of any barriers and determine the resultant noise levels at the assessment position.

11.5 Equivalent Position

The background noise levels were measured at the equivalent position, chosen as it most represented the closest noise sensitive façade, located within the school area between 07:00 on 9th May and 07:00 on 11th May 2019.

11.6 Rating Levels (Character Correction)

It is appropriate to add a character correction where there is a new source that cannot be measured in line with BS4142: 2014. There are 3 methods for approaching this.

- a) Subjective method
- b) Objective method (for tonality)
- c) Reference method

11.7 Subjective Method

The subjective method establishes a rating penalty that is added to the specific noise level if any of the following is present at the assessment position. If a tone is expected to be present a character correction of 0 dB to 6 dB is added depending on how perceptible it is at noise sensitive locations.

BS4142: 2014 – Section 9.2 Subjective Method	Perceptibility to noise sensitive facades	Correction
Tonality Ranging from not tonal to prominently tonal	Not tonal	+0
	Just perceptible	+2
	Clearly perceptible	+4
	Highly perceptible	+6

If the source is expected to be impulsive a character correction of 0 dB to 9 dB is added depending on how perceptible it is at noise sensitive locations.

BS4142: 2014 – Section 9.2 Subjective Method	Perceptibility to noise sensitive facades	Correction
Impulsivity Considering both the rapidity and any overall change in sound levels	Not impulsive	+0
	Just perceptible	+3
	Clearly perceptible	+6
	Highly perceptible	+9

When the sound features are neither tonal nor impulsive, a character correction of +3 is added for the readily distinctive quality against the acoustic environment or for the intermittency of the source.

BS4142: 2014 – Section 9.2 Subjective Method	Perceptibility to noise sensitive facades	Correction
Readily Distinctive	Is not present	+0
	Is present	+3
Intermittency	Is not present	+0
	Is present	+3

11.8 Assessment Criterion

The significance of the resulting noise on the residential property depends on the margin by which it exceeds the background noise levels. British Standard 4142: 2014 provides the following guidance within section 11.

Difference	Assessment of Impact
+10 dB	Indication of a significant adverse impact
+5 dB	Indication of an adverse impact
+0 dB	Indication of low impact

11.9 Noise Meter Floor

BS 4142: 2014 suggests that Care is necessary in circumstances where background sound levels are low to ensure that self-generated and electrical noise within the measurement system does not unduly influence reported values, which might be the case if the measured background sound levels are less than 10 dB above the noise floor of the measuring system. The floor of a typical class 1 noise meter is in the region of 14 dB(A) and therefore measurements of less than 24 dB(A) should be assessed with care.

11.10 Octave Band Frequency Analysis

All calculations carried out are done so on an octave band centre frequency basis and not an overall dB(A) level. This ensures that the tonal element from any proposed plant is minimised. A large majority of manufacturer's data is supplied in the octave band centre frequency (Hz) format.

11.11 BS 4142: 2014 Penalties

Whilst BS 4142: 2014 allows receptor assessments to be made to achieve levels equal to prevailing background noise levels, it also ensures that appropriate and more stringent penalties are applied to the specific noise level to ensure the correct level of protection for the local residents.

11.12 Assessments

11.12.1 Daytime (08:00 – 17:00)

Rating Industrial Noise affecting Mixed Industrial and Residential Areas			
British Standard 4142:2014 Day Time (07:00 to 17:00)			
Source	Operating Times		Source Position
	07:00 to 17:00		See Plans
	7 days per week		
	Worst case scenario		
Assessment Position	Hamilton Road Children’s Centre		
Background Position	At the assessment position		
Item	Calculation	Clause	Commentary
Specific Noise Level $L_{Aeq,1\text{ hour}}$	35 dB	7	Calculated using ISO 9613:1996 _[3] .
Tonality	+2 dB	8.1	Tonality Characteristic
Impulsivity	+3 dB	8.1	Impulsivity Characteristic
Rating Level	40 dB	9.1	The acoustic feature correction is added to the specific noise level
Background Noise Level $L_{A90,1\text{ hour}}$	40 dB	8.1	Modal Background Noise Level (0800 – 1700)
Assessment Level	+/- 0 dB	11	The background level is subtracted from the rating level.
Conclusion BS 4142:2014 _[1]	+10 dB Significant Adverse Effects, +5 dB Adverse Effects, +0 dB Low Impact		
Assessment	+/- 0dB		
Conclusion	The assessment level is below ‘Low Impact’		

11.13 Tonal Penalty

A +2 dB penalty has been applied to the specific noise level to allow for any minor tonal elements that may be present from the proposed plant. It should be noted that the calculations made within this report have been done so in octave band centre frequency levels in order to minimise tonal element and therefore applying any more than +2 dB would not be appropriate to this assessment. To safeguard the residents from any possible unwanted noise, this penalty has been applied as an extra layer of acoustic protection.

11.14 Impulsivity Penalty

A +3 dB penalty has been applied to the specific noise level to allow for any minor impulsive elements that may be present from the proposed plant. It should be noted that the calculations made within this report have been done so with the assessment conclusion of +/- 0 dB below the background noise levels and therefore, the impulsive nature of the plant should not be audible at the nearest associated noise sensitive preceptors. To safeguard the residents from any possible unwanted noise, this penalty has been applied as an extra layer of acoustic protection.

11.15 Assessment Conclusion

It can be seen from the above assessments that with any new plant achieving the proposed maximum noise level plant criteria detailed within this report, an assessment conclusion of Low Impact could be expected. Therefore no further mitigation measures would be required if the design criteria was adhered to.

12 CONCLUSION

12.1.1 External Ambient Noise Assessment BS 8233: 2014

Noise levels have been recorded at the above site over a typical 48 hour in order to obtain typical noise levels associated with the site.

In order to calculate the maximum internal noise level within the proposed development on the external facades of the proposed construction and ensure the criteria's have been met in accordance with BB93, the average LAeq 10 HOUR dB noise levels between 08:00hrs and 17:00 hrs has been used in accordance with British Standard 8233: 2014 'Sound Insulation and Reduction of Buildings - Code of Practice'. The proposed development can achieve the requirements of Building Bulletin 93 using standard double glazing and the proposed roof constructions.

12.1.2 External Plant Assessment BS 4142: 2014

The operation of any proposed plant has been assessed to establish if the development will have a demonstrable adverse effect in terms of noise that outweigh the benefits of the development. Measurements have been undertaken in accordance with British Standard 4142:2014 and ISO 1996 – Part 2: 2007. This report has established the existing background noise levels at the closest residential façade to the site and the assessment of the impact of the site operation on nearby residential properties. The resulting emissions from the site running on a worst case scenario show no conflict with 'low impact' criteria and give a strong indication that complaint and impact on the local amenity is unlikely, provided the recommended maximum noise levels plant criteria is achieved as detailed within this report.

The plant criteria were set as the new plant is yet to be designed.

12.1.3

National Planning Policy Framework 2019 suggests that planning permission should be granted unless any adverse impacts of doing so would significantly and demonstrably outweigh the benefits, when assessed against the policies in the framework taken as a whole, or specific policies in the framework indicate the application should be restricted.

Based on the calculations and assessments made within this report it is the professional opinion of Sound Advice Acoustics Ltd that the proposed development can demonstrate compliance with the National Planning Policy Framework 2019, NPPF & NPSE and that, with regards to sound, planning permission can be granted.

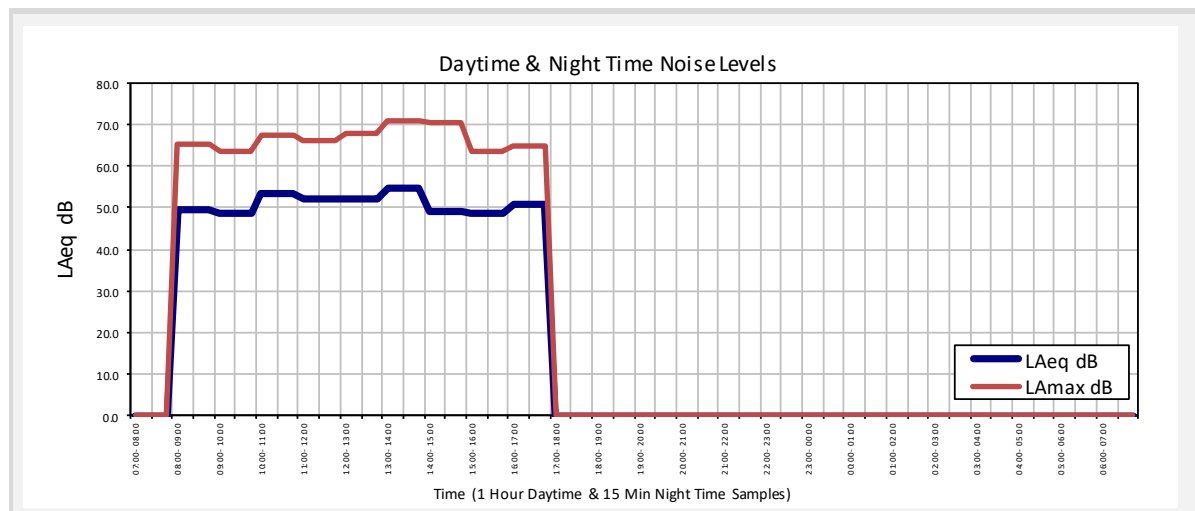
13 RESULTS

13.1 9th – 10th May 2019 Position 1 - Ambient

NOISE LEVEL SUMMARY ASSESSMENT											
Date / Time	Octave Band Centre Frequency (Hz)										
	L _{Aeq}	L _{Amax}	31.5	63	125	250	500	1.0k	2.0k	4.0k	8.0k 16.0k
DAYTIME 07:00 - 23:00 L_{Aeq} 16 HOUR & Cor r esponding L_{Amax} 16 HOUR	49.2	70.7	59.8	56.9	55.4	50.9	46.3	42.8	38.6	36.7	35.9 24.8
NIGHTTIME 23:00 - 07:00 L_{Aeq} 8 HOUR & Cor r esponding L_{Amax} 8 HOUR	7.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

DAYTIME NOISE LEVELS 07:00 - 23:00 1 HOUR SAMPLES											
Date / Time	Octave Band Centre Frequency (Hz)										
	L _{Aeq}	L _{Amax}	31.5	63	125	250	500	1.0 k	2.0 k	4.0 k	8.0 k 16.0 k
07:00 - 08:00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
08:00 - 09:00	49.7	65.2	61.7	59.6	55.9	52.3	47.2	43.2	36.3	36.5	38.3 17.9
09:00 - 10:00	48.9	63.7	58.5	57.1	54.6	50.8	47.5	43.1	35.9	32.5	30.4 16.6
10:00 - 11:00	53.4	67.5	61.4	59.1	58.0	54.9	50.8	46.1	43.6	43.2	42.4 31.4
11:00 - 12:00	52.1	66.3	63.9	60.6	58.5	55.0	50.2	45.4	39.7	37.6	36.9 22.9
12:00 - 13:00	52.3	68.0	65.5	61.0	57.6	54.5	50.1	46.6	41.5	37.2	35.3 25.7
13:00 - 14:00	54.6	70.7	65.4	62.1	63.8	57.2	51.6	47.6	43.5	41.0	37.3 26.1
14:00 - 15:00	49.0	70.4	57.9	55.5	54.2	47.4	44.0	43.2	41.0	38.9	39.8 31.0
15:00 - 16:00	48.9	63.7	59.1	58.0	51.7	49.1	45.2	44.1	39.8	36.7	33.9 21.6
16:00 - 17:00	50.9	65.1	59.0	57.9	52.6	50.0	46.8	45.6	42.4	40.7	40.4 29.8
17:00 - 18:00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18:00 - 19:00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19:00 - 20:00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20:00 - 21:00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21:00 - 22:00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22:00 - 23:00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

NIGHT TIME NOISE LEVELS 23:00 - 07:00 15 MINUTE SAMPLES											
Date / Time	Octave Band Centre Frequency (Hz)										
	L _{Aeq}	L _{Amax}	31.5	63	125	250	500	1.0 k	2.0 k	4.0 k	8.0 k 16.0 k
23:00 - 23:15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
23:15 - 23:30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
23:30 - 23:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
23:45 - 00:00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
00:00 - 00:15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
00:15 - 00:30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
00:30 - 00:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
00:45 - 01:00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
01:00 - 01:15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
01:15 - 01:30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
01:30 - 01:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
01:45 - 02:00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
02:00 - 02:15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
02:15 - 02:30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
02:30 - 02:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
02:45 - 03:00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
03:00 - 03:15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
03:15 - 03:30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
03:30 - 03:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
03:45 - 04:00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
04:00 - 04:15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
04:15 - 04:30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
04:30 - 04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
04:45 - 05:00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
05:00 - 05:15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
05:15 - 05:30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
05:30 - 05:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
05:45 - 06:00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
06:00 - 06:15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
06:15 - 06:30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
06:30 - 06:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
06:45 - 07:00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

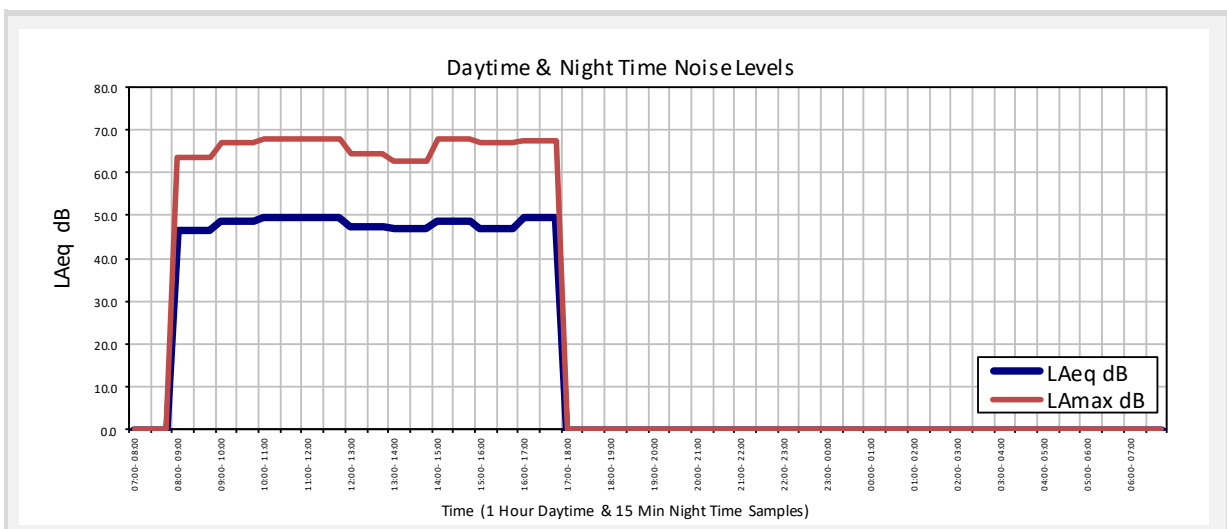


13.2 10th – 11th May 2019 Position 1 - Ambient

NOISE LEVEL SUMMARY ASSESSMENT			Octave Band Centre Frequency (Hz)									
Date / Time	L _{Aeq}	L _{Amax}	31.5	63	125	250	500	1.0k	2.0k	4.0k	8.0k	16.0k
DAYTIME 07:00 - 23:00 L_{Aeq} 16 HOUR & Cor r esponding L_{Amax} 16 HOUR	46.0	67.9	56.1	54.9	51.7	48.1	43.7	39.2	34.3	32.9	31.7	14.0
NIGHT TIME 23:00 - 07:00 L_{Aeq} 8 HOUR & Cor r esponding L_{Amax} 8 HOUR	7.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

DAYTIME NOISE LEVELS 07:00 - 23:00 1 HOUR SAMPLES												
Date / Time	L _{Aeq}	L _{Amax}	31.5	63	125	250	500	1.0 k	2.0 k	4.0 k	8.0 k	16.0 k
07:00 - 08:00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
08:00 - 09:00	46.4	63.8	59.6	57.9	50.0	46.1	40.7	411	37.5	38.1	31.5	15.6
09:00 - 10:00	48.9	66.9	58.2	57.1	56.4	50.1	45.4	413	35.3	40.2	38.6	17.1
10:00 - 11:00	49.4	67.9	57.4	56.5	54.2	52.5	48.0	42.4	37.2	34.6	32.4	15.1
11:00 - 12:00	49.7	67.7	59.3	57.7	55.9	52.4	48.6	42.9	37.5	30.9	33.3	15.9
12:00 - 13:00	47.4	64.4	58.0	56.5	52.8	49.2	45.5	416	35.6	32.7	34.3	15.8
13:00 - 14:00	46.9	62.8	57.5	56.9	54.0	50.5	44.6	39.8	35.2	31.4	29.3	14.9
14:00 - 15:00	48.5	67.8	59.0	58.2	55.3	51.6	47.1	414	35.3	31.5	26.9	13.9
15:00 - 16:00	47.0	67.1	59.3	57.7	52.7	48.6	43.9	410	37.7	30.9	35.8	19.8
16:00 - 17:00	49.3	67.6	58.3	57.6	53.9	51.3	47.6	43.0	38.3	35.8	34.8	16.3
17:00 - 18:00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18:00 - 19:00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19:00 - 20:00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20:00 - 21:00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21:00 - 22:00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22:00 - 23:00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

NIGHT TIME NOISE LEVELS 23:00 - 07:00 15 MINUTE SAMPLES												
Date / Time	L _{Aeq}	L _{Amax}	31.5	63	125	250	500	1.0 k	2.0 k	4.0 k	8.0 k	16.0 k
23:00 - 23:15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
23:15 - 23:30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
23:30 - 23:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
23:45 - 00:00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
00:00 - 00:15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
00:15 - 00:30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
00:30 - 00:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
00:45 - 01:00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
01:00 - 01:15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
01:15 - 01:30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
01:30 - 01:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
01:45 - 02:00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
02:00 - 02:15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
02:15 - 02:30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
02:30 - 02:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
02:45 - 03:00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
03:00 - 03:15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
03:15 - 03:30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
03:30 - 03:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
03:45 - 04:00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
04:00 - 04:15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
04:15 - 04:30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
04:30 - 04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
04:45 - 05:00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
05:00 - 05:15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
05:15 - 05:30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
05:30 - 05:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
05:45 - 06:00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
06:00 - 06:15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
06:15 - 06:30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
06:30 - 06:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
06:45 - 07:00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



13.3 9th – 10th May 2019 Position 1 – Background

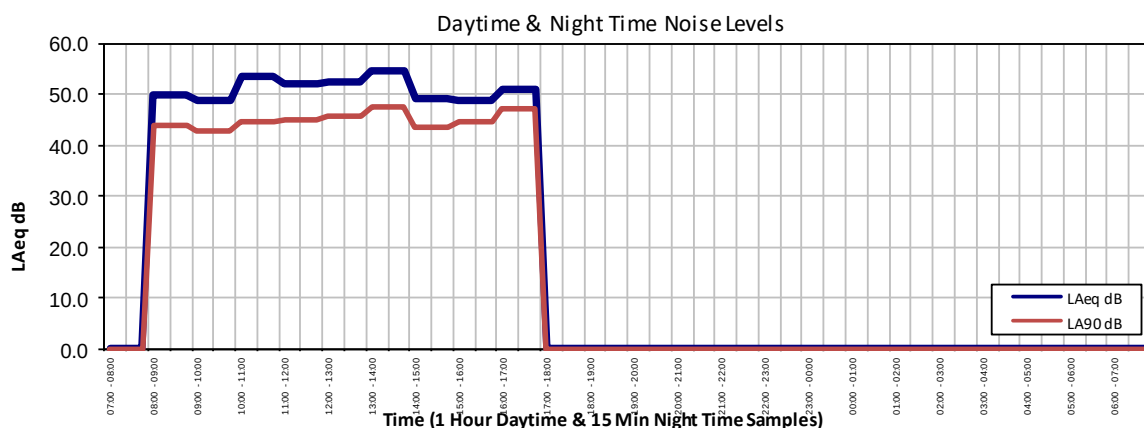
NOISE LEVEL SUMMARY ASSESSMENT		Octave Band Centre Frequency (Hz)										
Date / Time	LAeq	LA90	31.5	63	125	250	500	1.0k	2.0k	4.0k	8.0k	16.0k
DAYTIME 07:00 - 23:00 LA90 1 HOUR & Corresponding LAeq 1 HOUR	49.0	44.0	58.0	55.0	54.0	47.0	44.0	43.0	41.0	39.0	40.0	31.0
NIGHT TIME 23:00 - 07:00 LA90 15 MIN & Corresponding LAeq 15 MIN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

DAYTIME NOISE LEVELS 07:00 - 23:00 1 HOUR SAMPLES

Date / Time	LAeq	LA90	Octave Band Centre Frequency (Hz)									
			31.5	63	125	250	500	1.0 k	2.0 k	4.0 k	8.0 k	16.0 k
07:00 - 08:00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
08:00 - 09:00	49.7	44.0	61.7	59.6	55.9	52.3	47.2	43.2	36.3	36.5	38.3	17.9
09:00 - 10:00	48.9	42.9	58.5	57.1	54.6	50.8	47.5	43.1	35.9	32.5	30.4	16.6
10:00 - 11:00	53.4	44.7	61.4	59.1	58.0	54.9	50.8	46.1	43.6	43.2	42.4	31.4
11:00 - 12:00	52.1	44.9	63.9	60.6	58.5	55.0	50.2	45.4	39.7	37.6	36.9	22.9
12:00 - 13:00	52.3	45.5	65.5	61.0	57.6	54.5	50.1	46.6	41.5	37.2	35.3	25.7
13:00 - 14:00	54.6	47.4	65.4	62.1	63.8	57.2	51.6	47.6	43.5	41.0	37.3	26.1
14:00 - 15:00	49.0	43.6	57.9	55.5	54.2	47.4	44.0	43.2	41.0	38.9	39.8	31.0
15:00 - 16:00	48.9	44.6	59.1	58.0	51.7	49.1	45.2	44.1	39.8	36.7	33.9	21.6
16:00 - 17:00	50.9	47.1	59.0	57.9	52.6	50.0	46.8	45.6	42.4	40.7	40.4	29.8
17:00 - 18:00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18:00 - 19:00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19:00 - 20:00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20:00 - 21:00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21:00 - 22:00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22:00 - 23:00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

NIGHT TIME NOISE LEVELS 23:00 - 07:00 15 MINUTE SAMPLES

Date / Time	LAeq	LA90	Octave Band Centre Frequency (Hz)									
			31.5	63	125	250	500	1.0 k	2.0 k	4.0 k	8.0 k	16.0 k
23:00 - 23:15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
23:15 - 23:30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
23:30 - 23:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
23:45 - 00:00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
00:00 - 00:15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
00:15 - 00:30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
00:30 - 00:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
00:45 - 01:00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
01:00 - 01:15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
01:15 - 01:30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
01:30 - 01:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
01:45 - 02:00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
02:00 - 02:15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
02:15 - 02:30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
02:30 - 02:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
02:45 - 03:00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
03:00 - 03:15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
03:15 - 03:30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
03:30 - 03:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
03:45 - 04:00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
04:00 - 04:15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
04:15 - 04:30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
04:30 - 04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
04:45 - 05:00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
05:00 - 05:15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
05:15 - 05:30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
05:30 - 05:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
05:45 - 06:00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
06:00 - 06:15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
06:15 - 06:30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
06:30 - 06:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
06:45 - 07:00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



13.4 10th – 11th May 2019 Position 1 - Background

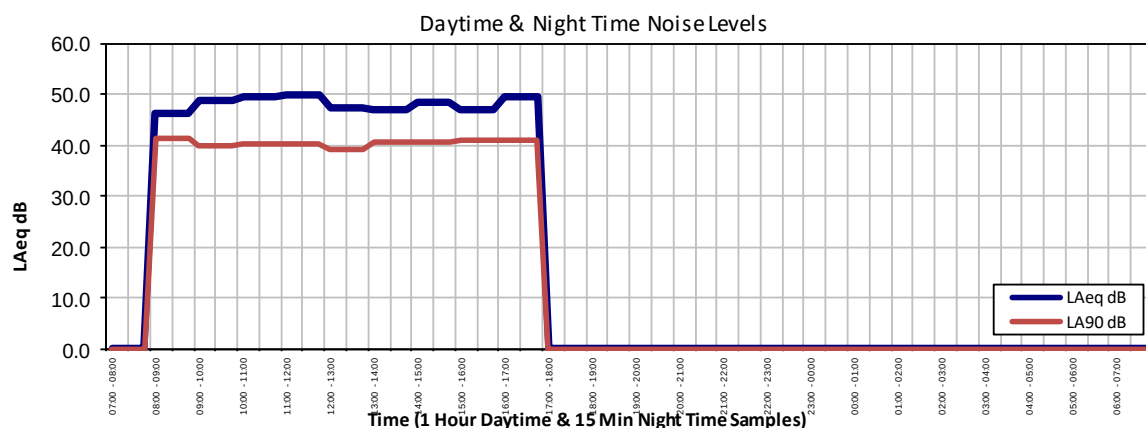
NOISE LEVEL SUMMARY ASSESSMENT		Octave Band Centre Frequency (Hz)										
Date / Time	LAeq	LA90	31.5	63	125	250	500	1.0k	2.0k	4.0k	8.0k	16.0k
DAYTIME 07:00 - 23:00 LA90 1 HOUR & Corresponding LAeq 1 HOUR	49.0	40.0	57.0	57.0	54.0	52.0	48.0	42.0	37.0	35.0	32.0	15.0
NIGHT TIME 23:00 - 07:00 LA90 15 MIN & Corresponding LAeq 15 MIN	7.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

DAYTIME NOISE LEVELS 07:00 - 23:00 1 HOUR SAMPLES

Date / Time	LAeq	LA90	Octave Band Centre Frequency (Hz)									
			31.5	63	125	250	500	1.0 k	2.0 k	4.0 k	8.0 k	16.0 k
07:00 - 08:00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
08:00 - 09:00	46.4	41.5	59.6	57.9	50.0	46.1	40.7	41.1	37.5	38.1	31.5	15.6
09:00 - 10:00	48.9	39.9	58.2	57.1	56.4	50.1	45.4	41.3	35.3	40.2	38.6	17.1
10:00 - 11:00	49.4	40.2	57.4	56.5	54.2	52.5	48.0	42.4	37.2	34.6	32.4	15.1
11:00 - 12:00	49.7	40.2	59.3	57.7	55.9	52.4	48.6	42.9	37.5	30.9	33.3	15.9
12:00 - 13:00	47.4	39.3	58.0	56.5	52.8	49.2	45.5	41.6	35.6	32.7	34.3	15.8
13:00 - 14:00	46.9	40.5	57.5	56.9	54.0	50.5	44.6	39.8	35.2	31.4	29.3	14.9
14:00 - 15:00	48.5	40.7	59.0	58.2	55.3	51.6	47.1	41.4	35.3	31.5	26.9	13.9
15:00 - 16:00	47.0	40.9	59.3	57.7	52.7	48.6	43.9	41.0	37.7	30.9	35.8	19.8
16:00 - 17:00	49.3	40.8	58.3	57.6	53.9	51.3	47.6	43.0	38.3	35.8	34.8	16.3
17:00 - 18:00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18:00 - 19:00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19:00 - 20:00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20:00 - 21:00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21:00 - 22:00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22:00 - 23:00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

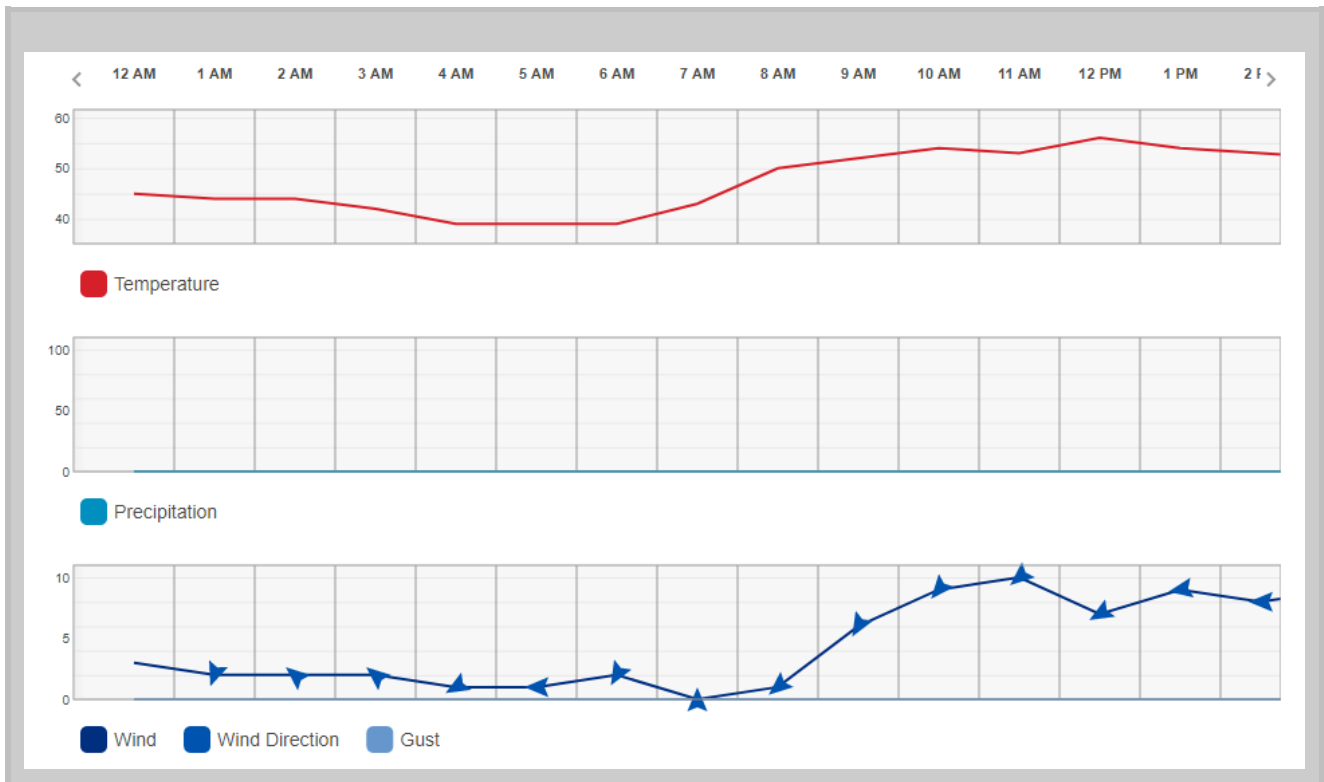
NIGHT TIME NOISE LEVELS 23:00 - 07:00 15 MINUTE SAMPLES

Date / Time	LAeq	LA90	Octave Band Centre Frequency (Hz)									
			31.5	63	125	250	500	1.0 k	2.0 k	4.0 k	8.0 k	16.0 k
23:00 - 23:15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
23:15 - 23:30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
23:30 - 23:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
23:45 - 00:00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
00:00 - 00:15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
00:15 - 00:30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
00:30 - 00:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
00:45 - 01:00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
01:00 - 01:15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
01:15 - 01:30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
01:30 - 01:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
01:45 - 02:00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
02:00 - 02:15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
02:15 - 02:30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
02:30 - 02:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
02:45 - 03:00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
03:00 - 03:15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
03:15 - 03:30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
03:30 - 03:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
03:45 - 04:00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
04:00 - 04:15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
04:15 - 04:30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
04:30 - 04:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
04:45 - 05:00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
05:00 - 05:15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
05:15 - 05:30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
05:30 - 05:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
05:45 - 06:00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
06:00 - 06:15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
06:15 - 06:30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
06:30 - 06:45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
06:45 - 07:00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

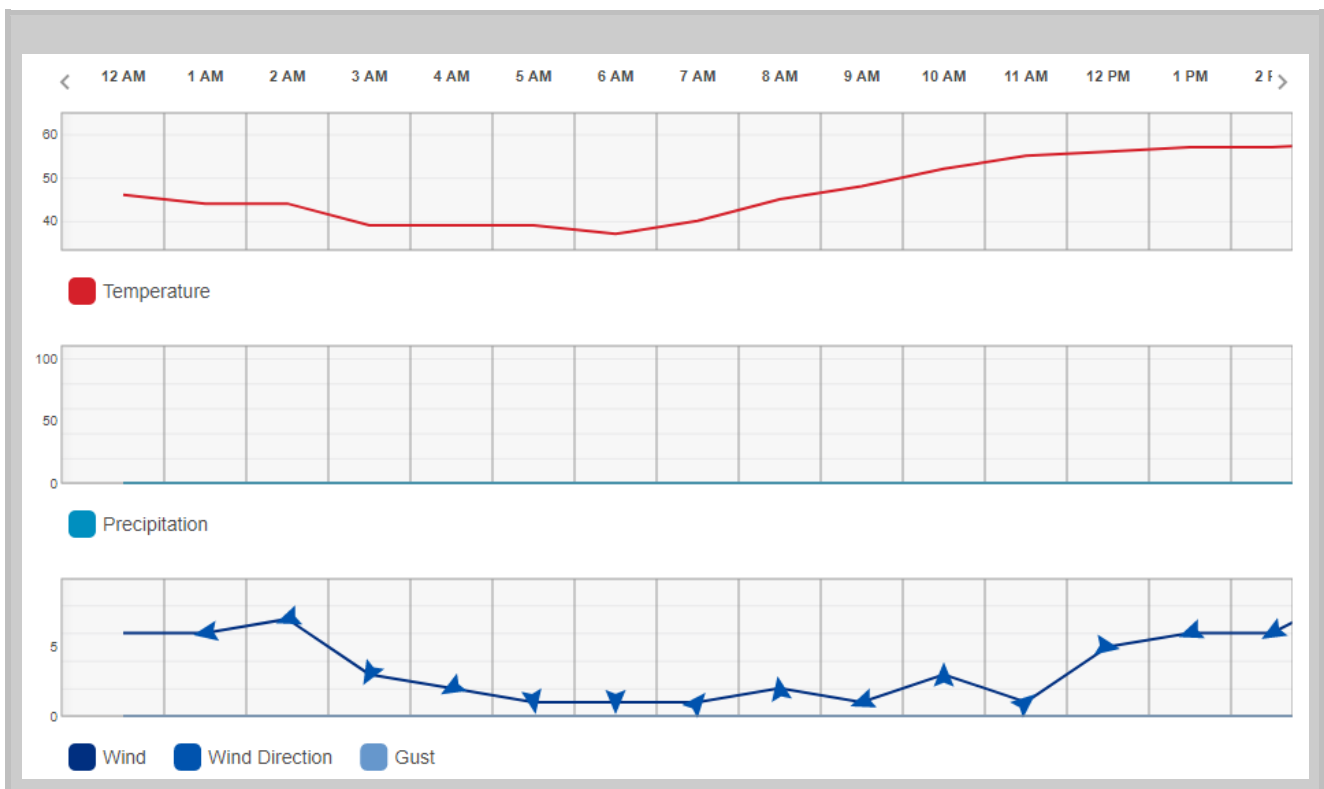


14 ENVIRONMENTAL CONDITIONS

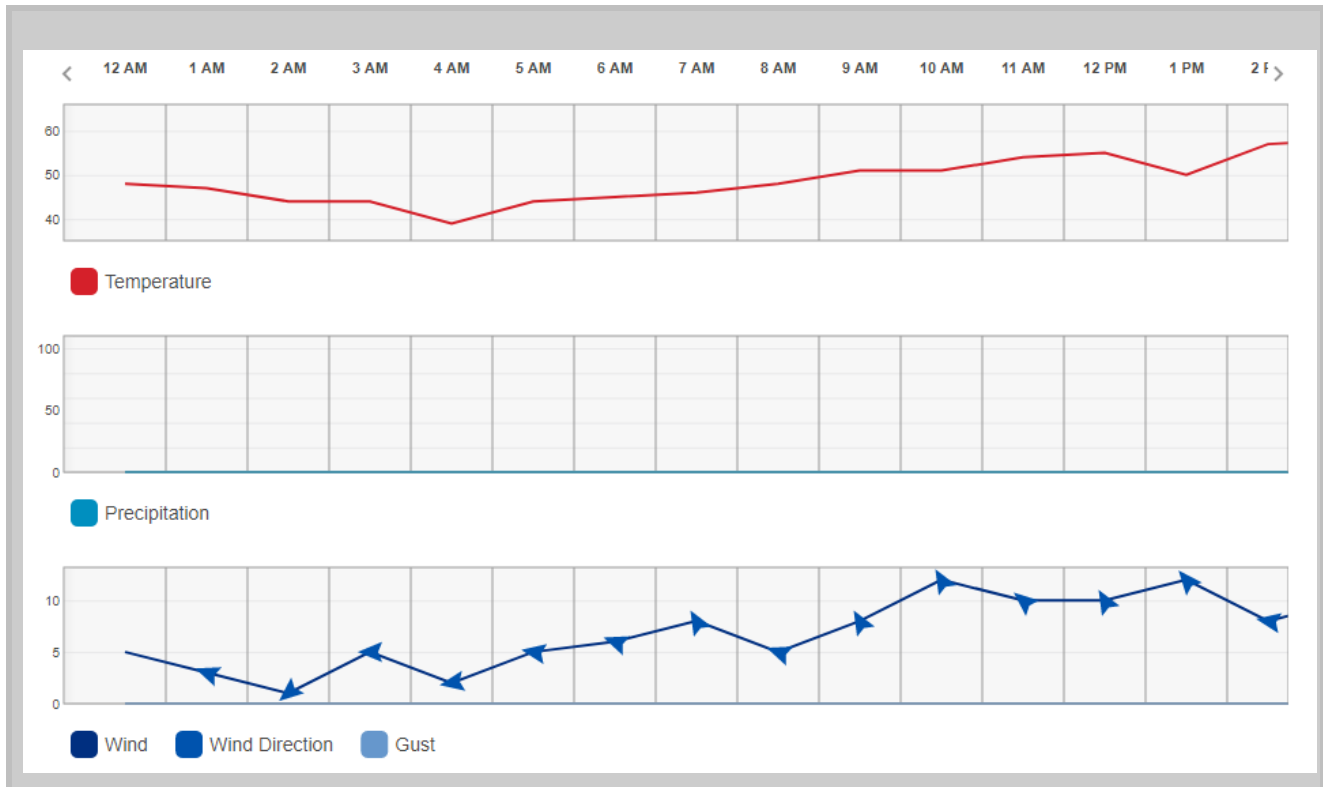
14.1 9th May 2019



14.2 10th May 2019



14.3 11th May 2019



#END OF REPORT#