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Noise Impact Assessment undertaken by:

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NOISE IMPACT ASSESSMENT FOR

M&Y GOLD PROPERTIES LTD
C/O 55 STATION ROAD
HAYLING ISLAND
HAMPSHIRE
PO11 0EB

SITE ADDRESS

PROPOSED MIXED-USE SCHEME
55 STATION ROAD
HAYLING ISLAND
HAMPSHIRE
PO11 1EB

ASSESSMENT DATE: 28TH – 29TH JANUARY & 31ST JAN – 1ST FEBRUARY 2026

REPORT DATE: 16TH FEBRUARY 2026

Acoustic Engineer:



Michael Vine

Testing Date: 28th – 29th & 31/1 – 1st Feb 2026



VINE ACOUSTICS LIMITED – NOISE IMPACT ASSESSMENT

Contents

Customer Name.....	3
Site Address.....	3
Equipment Used.....	3
Measurement Procedure.....	3
Proposal.....	3-4
Assessment Criteria.....	5-8
Executive Summary.....	9
Acoustic Design Statement.....	10
Objective.....	11
Calibration.....	11
Site Layout & Microphone Locations.....	11
Weather Conditions.....	11
Results Table & Conclusion.....	12-14
Commercial Assessment.....	15-17
Average Night Time values.....	18
Required level of mitigation.....	19
Ventilation, Glazing, Façade & roof.....	19
Results Summary.....	20
Internal Floor Separation.....	21
Site Plans.....	22
B5 Table.....	23
Pro PG Table.....	24
Appendix.....	25
Google Earth.....	26
Raw Data.....	27-41



VINE ACOUSTICS LIMITED – NOISE IMPACT ASSESSMENT

Customer Name:

Testing Date: 28th – 29th Jan & 31st Jan – 1st Feb 2026

Report Date: 16th February 2026

M&Y Gold Properties Ltd
C/O 55 Station Road
Hayling Island
Hampshire
PO11 0EB

Site Address:

55 Station Road
Hayling Island
Hampshire
PO11 0EB

Acoustic Engineer:

Mr. Michael Vine

Equipment used:

Norsonic Environmental Analyser 140 BS EN IEC 61672-1 2013 Class 1 – Associated frequency analyser to BS EN IEC 61260: 1996 Class 1 – serial 1407126 – calibration due March 2026

Measurement Microphone (Nor 1225) – Serial Number 305215 – calibration due March 2026

Acoustic Calibrator - (Type 1251) – Serial No 31652, Calibration due 31st November 2026

Measurement Procedure:

The purpose of this noise impact assessment is to assist with the proposed planning application shown below & to provide suitable mitigation measures to ensure the future residents are protected from the local noise sources apparent:

Site Address: 55 Station Road, Hayling Island, Hampshire, PO11 0EB

Proposal: Conversion of current commercial building into 1 x residential dwelling, with the retail unit remaining on the ground floor, 1 x flat built at 1st floor level by way of a new extension at 1st floor level.

An unattended assessment measuring the current acoustic climate over a 24-hour period in one microphone location was undertaken to determine the ambient noise levels at the front elevation of the proposed development site, facing Station Road. The assessment took place between 1027hrs on Wednesday 28th to 1027hrs on Thursday 29th January 2026.

A further, attended & unattended assessment was undertaken at the rear façade to establish the noise levels associated with the plant in operation, these included:

Noise Source	Location	AFC	Distance	Hours of Operation
Agaligo Thai Restaurant	Rear flat roof of restaurant - extraction motor	+3dB – Intermittent (confirmed by venue) +3dB - noticeable	8m	1700-2200hrs Tues to Fri, 1700-2300hrs on Sat, closed on Sunday & Monday
Whistlers Fish & Chips	Side elevation of building & completely screened	None – inaudible at façade (but included in calculation)	19m	1200-1400 & 1600-2100hrs Mon to Sat, 1600-2020hrs on Sunday
Dry Cleaners	Alley way to rear – partially screened	+6dB for tonality +3dB – noticeable +3dB - Intermittent	14m – partially screened	0800-1600hrs Mon – Sat



VINE ACOUSTICS LIMITED – NOISE IMPACT ASSESSMENT

The attended measurements included taking levels from the noise sources above, and the values included later in the report. It is anticipated that the Fish & Chip extraction system will be negligible at the façade, but the level has been included within the calculations and during the measured specific noise levels. The calculations include two x assessments due to the plant operating at different times. The dry cleaners are not in operation at the same time as the restaurant system, so each set of data has been measured and assessed accordingly.

Furthermore, the plant serving the restaurant stops at 2300hrs on Saturday only (2200hrs Tues-Fri and closed on Sunday & Monday) therefore it will not be in operation during the night time period, and this can be reflected in the low measured levels during the night time (these are also included within this report). The bedrooms are located at the front of the development with the kitchen/lounge at the rear. The $L_{Aeq\ 8\text{hour}}$ value has been included for the night time period as there will be no plant in operation during this time.

For clarity, the commercial assessment will be compared to the lowest $L_{A90\ 1\text{hour}}$ value between the hours of 0700-2300 (before the dry cleaners opened). This is to ensure compliance with the lowest measured background noise levels taken during the day time period.

The unattended assessment at the rear façade was in operation for 24hours and took measurements from the noise sources in operation, which were the road traffic noise to the front of the building and the various plant in operation at the rear. The average values will be included within the report, but the rear façade will be referenced against the L_{A90} values as per BS4142: 2014 + A1: 2019 due to the dominant noise in this location being of commercial nature.

The results for the front elevation will be compared to the criteria set out in BS8233: 2014 & WHO Guidelines and the requirements of the local authority environmental health department.

The separating ceiling between the retail unit at ground floor and dwelling above will also be upgraded to ensure building regulation compliance as well as all the separating floors and walls between flats. The following comments were made by the LPA regarding this scheme – and this forms the assessment criteria – therefore the ceiling detail must achieve a minimum sound insulation value of equal to or more than 53dB $D_{nT,w} + C_{tr}$.

Planning Application: APP/25/00970

Description: First Floor extension to existing commercial unit to provide a two bedroom self-contained flat. Associated works including the erection of rear external stairs for access.

Site Address: 55, Station Road, Hayling Island, PO11 0EB

Thank you for consulting Environmental Health (Pollution) regarding the above planning application.

The proposed development is located within a mixed-use area, with nearby commercial premises including a Thai restaurant and a chip shop. The building also fronts onto Station Road, which is a busy local thoroughfare. The plant associated with nearby commercial premises and traffic on Station Road introduces potential external noise sources that have not been assessed within the application.

The proposal includes a first-floor extension to create a residential dwelling above an existing commercial unit. The ground floor unit is anticipated to fall under Use Class E, which permits a range of commercial uses. This could include businesses with higher noise profiles in the future, such as gyms, dance studios, or cafés. Consequently, enhanced sound insulation will be required to achieve a standard at least 10 dB greater than the minimum requirements set out in Approved Document E of the Building Regulations.

With consideration to the above, the applicant is requested to provide a detailed noise impact assessment addressing the effect of external noise sources, including commercial plant and traffic, on the proposed residential accommodation. The report should include, where necessary, mitigation measures to ensure internal noise levels comply with relevant standards and specifications for the separating floor/ceiling construction to achieve a minimum airborne sound insulation performance of 53 dB $D_{nT,w}$. The report should be prepared by a suitably qualified acoustic consultant and should have full regard to relevant guidance, including BS 8233:2014 – Guidance on Sound Insulation and Noise Reduction for Buildings and BS 4142:2014 – Methods for Rating and Assessing Industrial and Commercial Sound.



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Assessment Criteria:

The National Planning Policy Framework (NPPF) came into effect in March 2012 and was updated in December 2024. It replaced other documents such as PPG24. The NPPF provides several objectives and aims that are directed towards avoiding significant adverse impacts and reducing others on quality of life and health. This document states that:

Paragraph 187 states Planning policies and decisions should contribute to and enhance the natural and local environment by:

e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, considering relevant information such as river basin management plans.

Paragraph 198 states - Planning policies and decisions should also ensure that new development is appropriate for its location considering the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as the potential sensitivity of the site or the wider area to impacts that could arise from the development. In doing so they should:

- a) mitigate and reduce to a minimum potential adverse impact resulting from noise from new development – and avoid noise giving rise to significant adverse impacts on health and the quality of life;
- b) identify and protect tranquil areas which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason; and
- c) limit the impact of light pollution from artificial light on local amenity, intrinsically dark landscapes, and nature conservation.

Paragraph 200 - Planning policies and decisions should ensure that new development can be integrated effectively with existing businesses and community facilities (such as places of worship, pubs, music venues and sports clubs). Existing businesses and facilities should not have unreasonable restrictions placed on them as a result of development permitted after they were established. Where the operation of an existing business or community facility could have a significant adverse effect on new development (including changes of use) in its vicinity, the applicant (or 'agent of change') should be required to provide suitable mitigation before the development has been completed.

The Planning Practice Guidance has guidance on noise, dated 22nd July 2019, and has the noise hierarchy table as shown below. Paragraphs 009 & 011 are referenced later in this report.



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Response	Examples of outcomes	Increasing effect level	Action
No Observed Effect Level			
Not present	No Effect	No Observed Effect	No specific measures required
No Observed Adverse Effect Level			
Present and not intrusive	Noise can be heard, but does not cause any change in behaviour, attitude or other physiological response. Can slightly affect the acoustic character of the area but not such that there is a change in the quality of life.	No Observed Adverse Effect	No specific measures required
Lowest Observed Adverse Effect Level			
Present and intrusive	Noise can be heard and causes small changes in behaviour, attitude or other physiological response, 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 some reported sleep disturbance. Affects the acoustic character of the area such that there is a small actual or perceived change in the quality of life.	Observed Adverse Effect	Mitigate and reduce to a minimum
Significant Observed Adverse Effect Level			
Present and disruptive	The noise causes a material change in behaviour, attitude or other physiological response, 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 behaviour, attitude or other physiological response and/or an inability to mitigate effect of noise leading to psychological stress, e.g. regular sleep deprivation/awakening; loss of appetite, significant, medically definable harm, e.g. auditory and non-auditory.	Unacceptable Adverse Effect	Prevent

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 noise.

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

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

The NPSE (Noise Policy Statement for England) states the following aims with respect to noise policy:

Through the effective management and control of environmental, neighbour and neighbourhood noise within the context of the Government policy on sustainable development:

*avoid significant adverse impacts on health and quality of life;
mitigate and minimise adverse impacts on health and quality of life; and
where possible, contribute to the improvement of health and quality of life.*



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PROPG: PLANNING & NOISE (2017) NEW RESIDENTIAL DEVELOPMENT [PROPG 2017]

The ProPG Planning & Noise document was published in 2017, its development supported by the Institute of Acoustics, the Association of Noise Consultants, and the Chartered Institute of Environmental Health. The aim of the document is to provide practitioners with guidance on a recommended approach to the management of noise within the planning system in England.

ProPG advocates a systematic, proportionate risk-based, 2 stage approach which:

1. Encourages early consideration of noise issues;
2. Facilitates straightforward accelerated decision making for lower risk sites;
3. Assists proper consideration of noise issues where the acoustic environment is challenging.

A summary of the overall ProPG approach is included in Appendix B. The two sequential stages of the overall approach are:

1. Stage 1 – an initial noise risk assessment of the proposed development site; and
2. Stage 2 – a systematic consideration of four key elements.

The four key elements to be undertaken in parallel during Stage 2 are:

1. Element 1 – demonstrating a “Good Acoustic Design Process”;
2. Element 2 – observing internal “Noise Level Guidelines”;
3. Element 3 – undertaking an “External Amenity Area Noise Assessment”; and
4. Element 4 – consideration of “Other Relevant Issues”.

The approach is underpinned by the preparation and delivery of an “Acoustic Design Statement” [ADS]. The ADS is intended to conclude in the provision of one of the following four recommendations to the decision maker:

1. Planning consent may be granted without any need for noise conditions;
2. Planning consent may be granted subject to the inclusion of suitable noise conditions;
3. Planning consent should be refused on noise grounds in order to avoid significant adverse effects (“avoid”); or
4. Planning consent should be refused on noise grounds in order to prevent unacceptable adverse effects (“prevent”).

The overall ProPG 2017 approach is intended for implementation with projects at an earlier stage than the subject of this report. This report provides a full noise mitigation strategy for the site, rather than an initial recommendation to the decision maker.

ProPG 2017 contains the most up to date guidance available on industry-wide adopted best-practice interpretation of relevant guidance regarding acceptable internal and external noise levels i.e., BS8233:2014 and WHO Guidelines.

WHO GUIDELINES FOR COMMUNITY NOISE (1999)

The guidance in this document recommends design criteria for internal noise levels within residential and commercial buildings. A summary of the recommended guidance is shown in Table 2.1. **Table 2.1 – Excerpt from WHO [dB ref. 20μPa]**

Criterion	Environment	Design range LAeq, T dB
Maintain speech intelligibility, avoid moderate annoyance, daytime & evening	Living Rooms	35
Prevent sleep disturbance, night time	Bedrooms	30

This guidance also states:

For a good sleep, it is believed that indoor sound pressure levels should not exceed approximately 45dB LA_{max} more than 10-15 times a night (Vallet & Vernet 1991)



VINE ACOUSTICS LIMITED – NOISE IMPACT ASSESSMENT

For outdoor living areas, it is stated that:

To protect the majority of people from being seriously annoyed during the daytime, the outdoor sound level from steady, continuous noise should not exceed 55dB LAeq on balconies, terraces and in outdoor living areas. To protect the majority of people from being moderately annoyed during the daytime, the outdoor sound level should not exceed 50dB LAeq. Where it is practical and feasible, the lower outdoor sound level should be considered the maximum desirable sound level for new development.

BS8233:2014 GUIDANCE ON SOUND INSULATION AND NOISE REDUCTION FOR BUILDINGS

The guidance in this document indicates acceptable noise levels for various activities within residential dwellings. A summary of the recommended guidance is shown in the following table as listed in BS8233: 2014

Activity	Location	07:00 to 23:00	23:00 to 07:00
Resting	Living Room	35 dB LAeq, 16 hour	-
Dining	Dining Room	40 dB LAeq, 16 hour	-
Sleeping (daytime resting)	Bedroom	35 dB LAeq, 16 hour	30 dB LAeq, 8 hour

Pro PG document states the following for $L_{Amax,F}$ noise levels.

An indication that there may be more than 10 noise events at night (2300 – 0700) with $L_{Amax,F} > 60$ dB means the site should not be regarded as negligible risk.

The WHO guidance states the following regarding frequency of events: For a good sleep, internal maximum noise levels should not exceed 45dB L_{Amax} more than **10–15 times per night**. Therefore, the calculations used in this assessment are the numbers of events not exceeding 10 times between the hours of 2300-0700hrs – measured in F time-weighting – $L_{Amax,F}$

BS 4142:2014+A1:2019 Methods for rating and assessing industrial and commercial sound states that:

1- A difference of around +10dB or more is likely to be an indication of a significant adverse impact, depending on the context.

2- A difference of around +5dB is likely to be an indication of an adverse impact, depending on the context.

3- The lower the rating level is relative to the measured background sound level, the less likely it is that the specific source will have an adverse impact or a significant adverse impact. Where the rating level does not exceed the background sound level this is an indication of the specific sound source having a negligible impact, depending on the context.



VINE ACOUSTICS LIMITED – NOISE IMPACT ASSESSMENT

Executive Summary:

Vine Acoustics Ltd were instructed by M&Y Gold Properties Ltd to undertake a Noise Impact Assessment (NIA) at 55 Station Road, Hayling Island. Planning application APP/25/00970 has been made to erect a 2-bedroom self-contained flat at 1st floor level, accessed by a rear external staircase. The commercial unit will remain at ground floor level. The microphone locations were used to determine the impact of the following noise sources on the proposed dwelling:

1. Noise associated with the local road network – Station Road to the front of the development
2. Plant noise from Dry Cleaners, Thai Restaurant & Fish & Chip shop – rear elevation

This report will address the noise source listed above and has been written to assess the impact of the noise sources on the proposed scheme. As part of the ventilation strategy, it is recommended that the dwelling be fitted with an alternative ventilation system such as MVHR with summer bypass, acoustic wall ventilation or something like acoustic trickle vents.

The front elevation will be assessed against BS8233: 2014 and the rear against BS4142: 2014 +A1: 2019 due to the commercial nature of the noise sources at the rear. No mitigation measures are possible at source (neighbouring plant) so the mitigation levels will include the absolute level of sound reduction required for the rear elevation.

The proposed scheme should not be adversely affected by the noise associated with the immediate area providing the necessary mitigation measures are implemented to the scheme. The measured noise levels are consistent with the site near the noise sources listed above. The conclusions of this report illustrate that the noise associated with the immediate area will not have an adverse impact on the proposed residential scheme, providing that suitable mitigation measures are implemented to the proposed scheme. To strike a balance between noise, overheating & ventilation it is anticipated that future residents of the scheme should be able to ventilate the dwellings naturally by opening windows throughout the day time and night time period. Both the measured & calculated levels indicate a low to moderate impact on the proposed scheme with lengthy periods whereby the rooms can be naturally ventilated via open windows without leading to an adverse impact.

Therefore, the scheme can be naturally ventilated with open windows for periods of the day time and night time, at their own discretion but the recommended ventilation strategy will include alternative ventilation as listed above.

The immediate area is in a mixed-use location with dwellings located at upper floors, associated plant and storage containers to the rear.

There are existing residential dwellings located in similar locations along Station Road, above other commercial units.



VINE ACOUSTICS LIMITED – NOISE IMPACT ASSESSMENT

Acoustic Design Statement:

The measured average levels are moderate and constant throughout the measurement duration. The necessary noise criteria should be achieved by suitable mitigation measures for the building façade & glazing. The client will take steps and implement mitigation measures to ensure the impact of the external & internal noise should not have an adverse impact on the future residential dwelling. These steps include:

- 1 Install a robust glazing system to the scheme to protect the residents from external noise emissions when closed
- 2 Thermal mass offered by the building fabric
- 3 Alternative ventilation system installed to dwelling to ensure ventilation when windows closed – MVHR with summer bypass or acoustic trickle vents
- 4 Orientation of noise sensitive bedrooms – these are located to the front of the dwelling so away from the plant operating during the evening period
- 5 Kitchen/dining room located on the rear façade with lounge in the middle of the dwelling
- 6 Upgrade separating floor/ceiling to achieve a minimum sound insulation value of 53dB $D_{nT,w} + C_{tr}$

The initial risk assessment has indicated that the day time & night time noise levels for the front elevation fall into the low category and the rear elevation for the day time fall into the negligible category and the night time levels fall into the low category.

Pro PG states that for low categories *‘at low noise levels, the site is likely to be acceptable from a noise perspective provided that a good acoustic design process is followed and is demonstrated in an ADS which confirms how the adverse impacts of noise will be mitigated and minimised in the finished development’.*

For medium category – ‘As noise levels increase, the site is likely to be less suitable from a noise perspective, and any subsequent application may be refused unless a good acoustic design process is followed and is demonstrated in an ADS which confirms how the adverse impacts of noise will be mitigated and minimised, and which clearly demonstrate that a significant adverse noise impact will be avoided in the finished development.’

A robust & comprehensive ADS has been applied to the scheme. This is the case as can be seen above. The ADS for this scheme included robust & comprehensive mitigation measures that will ensure a suitable acoustic criterion for the future residents of the scheme.

The alternative ventilation systems are not designed to ensure BS8233: 2014 compliance in isolation but offer suitable levels of ventilation during periods when windows maybe closed, but it is anticipated that the scheme can be naturally ventilated with open windows for periods of the day time and night time periods, and it is essential that a balance is struck between noise, ventilation and overheating as there will clearly be periods of the day time and night time that the dwellings will not be adversely affected by the noise sources.

The requirements of BS8233: 2014 can be seen in the table on page 8 of this report.

BS 4142:2014+A1:2019 Methods for rating and assessing industrial and commercial sound states that:

1- A difference of around +10dB or more is likely to be an indication of a significant adverse impact, depending on the context.

2- A difference of around +5dB is likely to be an indication of an adverse impact, depending on the context.

3- The lower the rating level is relative to the measured background sound level, the less likely it is that the specific source will have an adverse impact or a significant adverse impact. Where the rating level does not exceed the background sound level this is an indication of the specific sound source having a negligible impact, depending on the context.

Additional acoustic feature corrections can be applied to the final rating level for tonality, impulsiveness, intermittency & the source being noticeable. Some reductions will also affect the final rating level such as sound propagation & screening



VINE ACOUSTICS LIMITED – NOISE IMPACT ASSESSMENT

1 Objective:

1.1 To demonstrate that the noise associated with the immediate area will not have an adverse impact on the proposed residential scheme. Planning application APP/25/00970 has been made to erect a 2-bedroom self-contained flat at 1st floor level on the current flat roof area. The commercial unit will remain at ground floor.

1.2 This report will account for noise emissions produced from road traffic using Station Road to the front and the neighbouring plant systems to the rear. The scheme will include comprehensive mitigation measures to reduce the impact of the sources and ensure a suitable internal acoustic environment and a balance between noise, ventilation & overheating.

2 Calibration:

2.1 The measurement microphone was calibrated before and after testing in the measurement location and there were no drifts recorded during the assessments.

3 Site Layout & Microphone Position:

3.1 55 Station Road is a single storey commercial unit located in a terrace of mixed-use buildings (both neighbouring buildings already have dwellings at 1st floor level. The front façade faces Station Road and the rear facade faces hardstanding areas and the plant for the neighbouring restaurant.

3.2 Station Road is a relatively busy road located in the West Town area of Hayling Island. It is a relatively busy road with a frequent flow of traffic. It has numerous mixed-use buildings located in the vicinity with commercial units at ground floor level and residential dwellings above, both existing and purpose-built schemes.

3.3 The site lies immediately to the South of Station Road with the nearby commercial uses being a Thai restaurant, a fish & chip shop & a dry cleaners. There are other commercial uses nearby including a bathroom store and other business premises.

3.4 A proposed site layout has been attached to this report, showing that the bedrooms will be located at the front of the scheme, so away from the commercial plant and the lounge located in the middle of the dwelling so screened from both façades. The microphone was located:

- 1- Northern façade of the site at the front façade, microphone approximately 4metres from ground level and 10m from the centre of Station Road
- 2- Southern façade of the site – a minimum of 2m from ground level

4 Weather Conditions:

4.1 The weather was cold & dry during the measurement procedure; the temperature ranged between 0-10 degrees on Wednesday 28th and 1-7 degrees on Thursday 29th January, with no rain during the measurement period but it did rain once the assessment finished. The rear assessment was undertaken on another occasion due to the weather and the temperatures were 5-11degrees on Saturday 31st Jan and 5-9degrees on Sunday 1st Feb. There was some rain during the early hours of Sunday morning, but this didn't affect the background noise levels for the plant assessment (time period used 2300-0000hrs). The plant noise levels were measured during the evening of Thursday 29th Jan once the ran hod stopped and there was no wind.

5 Measurement Duration:

5.1 The continuous measurement was taken for a 24-hour period at the front façade & the rear façade. The immediate area was operating at normal levels and thus offers a fair reflection of the noise associated with the immediate area. The hours of operation for the plant are shown on Page 3.



VINE ACOUSTICS LIMITED – NOISE IMPACT ASSESSMENT

6 Results:

6.1 The purpose of this measurement was to establish the levels associated with the immediate area on the proposed scheme. The levels will be compared to the necessary British Standards & relevant documents, also some bespoke measurements will be adopted.

L_{Aeq} 16hour & 8hour Noise Levels:

Mic Location	L _{Aeq} 16hour Value	Reduction needed for BS8233 compliance	L _{Aeq} 8hour Value	Reduction for BS8233 compliance	L _{Amax,F} Value	Reduction for compliance
ML 1 – Front elevation	61dBA	26dB	51dBA	21dB	70dBA	25dB

7 Results Conclusion:

7.1 The tables listed above clearly indicate the required sound reduction values at the front elevation of the proposed site. It is clear to see that the measured levels are within the low category of the Pro PG document for the front façade. Providing suitable mitigation measures are applied to the necessary facades and the required internal criteria can be achieved. It is anticipated that the scheme can be naturally ventilated with open windows for periods during the day time and night time, to achieve a balance between noise, ventilation, and overheating and without leading to a change in behavior.

7.2 Based on the measured noise levels, the proposed mitigation measures, the location of the development and the type of noise apparent it is anticipated that the noise will fall at The NOEL value (No adverse effect level) and maybe towards the LOAEL (Lowest observed adverse effect level) and as such the noise should not have a detrimental effect on the future residents providing adequate measures are implemented to the building fabric & elements. For noise sources at the LOAEL, it is anticipated that the noise will be noticeable but not intrusive if suitable mitigation measures are implemented to the development.

7.3 Based on the measured levels and assuming a glazing specification offering a sound reduction of 35dBA (meeting the levels required above) is installed the following internal levels would be achieved:

Front Facade

Room	External Level	Sound Reduction of windows	Internal Level	Criteria Met
Lounge	61dBA	30dB	31dBA	Yes
Bedroom – L_{Aeq}	51dBA	30dB	21dBA	Yes
Bedroom - L_{Amax}	70dBA	30dB	40dBA	Yes

7.4 The levels above indicate that the internal levels can be achieved with the windows closed. Further table shown on the following page. Section 2.30 and Figure 2 of the Pro PG document states that the internal guidelines of BS8233: 2014 can be relaxed by 5dBA (40dBA L_{Aeq} 16hour and 35dBA L_{Aeq} 8hour) when the dwellings are necessary or desirable and that residents will accept a slight increase in noise levels to ensure natural ventilation. A relaxation of 5dBA will still ensure a reasonable standard of living. This approach could be implemented to the development for the day time levels and the night time levels.



VINE ACOUSTICS LIMITED – NOISE IMPACT ASSESSMENT

7.5 The levels shown in the table above indicate that a reasonable standard of living can be achieved with closed windows, and the calculations below indicate the levels with open windows for transportation noise.

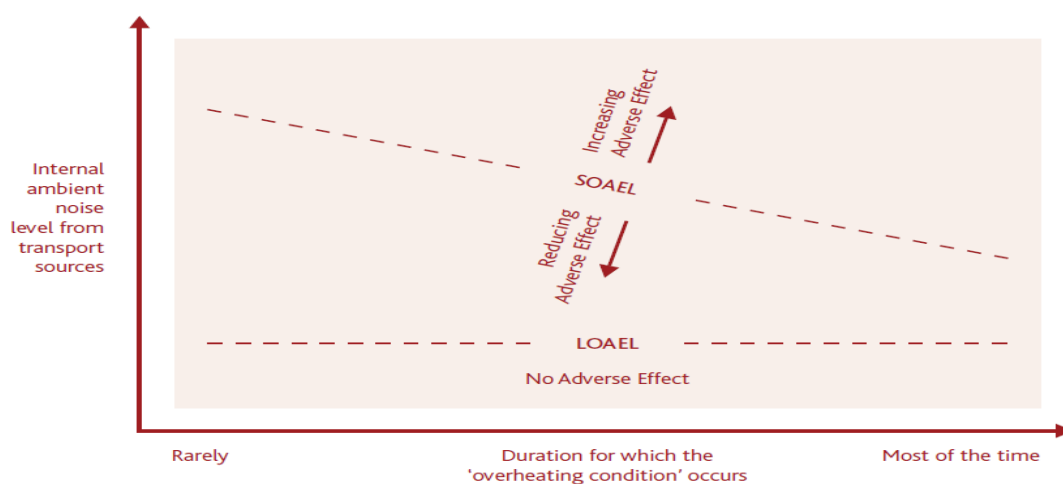
7.6 Table 3.3 – Guidance for level 2 assessment of noise from transport services in the ANC AVO guide states that 'Noise causes a material change in behaviour e.g., having to keep windows closed most of the time' if the following levels are exceeded for longer periods of time:

<i>Internal ambient noise levels</i>		
<i>L_{Aeq} 16hour 0700-2300</i>	<i>L_{Aeq} 8hour 2300-0700</i>	<i>Individual noise events 2300-0700</i>
>50dB	>42dB	Normally exceeds 65dB L _{AmaxT}

7.7 Using the above guidance (sliding scale as shown in the diagram below) the calculated internal levels at the residential facades with the windows open are also shown below. It is anticipated that the future occupants will accept an increase in the noise levels for periods of time to ensure good thermal comfort for the dwellings. These levels can be met for transportation noise. There will be periods of time when windows are opened and may be fewer, but then the alternative ventilation system can ensure suitable levels of ventilation for the bedrooms.

<i>Front Facade</i>	<i>External Level</i>	<i>Sound Reduction of open windows</i>	<i>Internal Level</i>
<i>Lounge</i>	61dBA	-13dB	48dBA
<i>Bedroom – L_{Aeq}</i>	51dBA	-13dB	38dBA
<i>Bedroom - L_{Amax}</i>	70dBA	-13dB	57dBA

Figure 3-2 Qualitative guidance on combined effect of internal ambient noise level and duration for the overheating situation



7.8 Based on the measured average levels and anticipated internal levels, it is recommended that whilst the scheme can be naturally ventilated for periods of time, to ensure suitable internal balance and criteria that an alternative ventilation system is incorporated into the scheme. An alternative ventilation system will help to ensure that the dwellings can be ventilated when the windows are closed. These measures combined with glazing should ensure a reasonable standard of living can be achieved for the proposed dwellings.



VINE ACOUSTICS LIMITED – NOISE IMPACT ASSESSMENT

7.9 It can be seen (using the measured levels) that the internal levels, are all calculated to be within the values listed in Table 3.3 with windows open, therefore illustrating that the noise ingress should not lead to a change in behavior for long periods of the day time and night time period. As part of the ventilation and overheating strategy (and to reduce the noise impact), the alternative ventilation system is to ensure the dwelling can be ventilated for the period of time when the windows are closed, and a balance must be struck between noise, overheating and ventilation. It is anticipated that future residents will accept this slightly higher level for periods of time to be able to naturally ventilate their homes and the measured levels should not be intrusive.

7.10 The proposed measures indicate that the development follows the approach recommended in the PPG Guidance (Paragraph 009) regarding the closure of windows which states: *“The agent of change will also need to define clearly the mitigation being proposed to address any potential significant adverse effects that are identified. Adopting this approach may not prevent all complaints from the new residents/users about noise or other effects but can help to achieve a satisfactory living or working environment and help to mitigate the risk of a statutory nuisance being found if the new development is used as designed (for example, keeping windows closed and using alternative ventilation systems when the noise or other effects are occurring).”*

7.11 Paragraph 011 of the same guidance states: Noise impacts may be partially offset if residents have access to one or more of:

- a relatively quiet facade (containing windows to habitable rooms) as part of their dwelling.
- a relatively quiet external amenity space for their sole use, (e.g., a garden or balcony). Although the existence of a garden or balcony is generally desirable, the intended benefits will be reduced if this area is exposed to noise levels that result in significant adverse effects.
- a relatively quiet, protected, nearby external amenity space for sole use by a limited group of residents as part of the amenity of their dwellings; and/or
- a relatively quiet, protected, externally publicly accessible amenity space (e.g., a public park or a local green space designated because of its tranquility) that is nearby (e.g. within a 5-minute walking distance).

7.12 Due to the orientation of the buildings, it is not possible to have a quieter facade as part of the development, but there is external amenity space close by that can be used by the future residents as they wish.

Residential Amenity Space:

7.13 There is no amenity space as part of the development



VINE ACOUSTICS LIMITED – NOISE IMPACT ASSESSMENT

8 Rear Elevation – Commercial Assessment:

8.1 The noise sources in operation at the rear are shown in the table below, along with operating period.

Noise Source	Location	AFC	Distance	Hours of Operation
Agaligo Thai Restaurant	Rear flat roof of restaurant - extraction motor	+3dB – Intermittent +3dB – Noticeable	8m	1700-2200hrs Tues to Fri, 1700-2300hrs on Sat only, closed on Sunday & Monday
Whistlers Fish & Chips	Side elevation of building & completely screened	None – inaudible at façade (but included in calculation) – completely screened	19m – screened	1200-1400 & 1600-2100hrs Mon to Sat, 1600-2020hrs on Sunday
Dry Cleaners	Alley way to rear – partially screened	+6dB for tonality +3dB – noticeable +3dB - Intermittent	14m – partially screened	0800-1600hrs Mon – Sat

Noise Source	Location/Distance	Operation	Audible	Dominant	Level at 1m
Thai Extraction Motor	Flat roof at rear – 8m to dwelling	Intermittent	Yes but not over traffic	Not at window	63dBA
Fish & Chip Shop	Side elevation & completely screened – 19m from facade	Continuous	No	No	63dBA
Dry Cleaners Extract	Alleyway – partially screened – 14m from facade	Intermittent	Yes	Yes	74dBA

8.2 The measured noise levels have been assessed using direct measurements at the proposed façade rather than calculation based on a point source sound propagation. This allows for direct measurements to be included. The hours of operation indicate that the dry cleaners and Fish & Chip shop will be in operation at the same time (day time – until 1600hrs) and the Thai Restaurant and Fish & Chip shop only during the evening time period as the dry cleaners closes at 1600hrs. Therefore, the necessary calculations have been performed with the above considered.

If any calculated values at the façade were done, these were done so by using a point source sound propagation equation shown below, but the levels were measured on site:

$$L_2 = L_1 - 20 \log (r_2/r_1)$$

8.3 The background noise levels during the evening period were taken prior to the restaurant plant being switched on, this was confirmed with the restaurant as they were spoken to. There is also a residential window closer to the extraction system than the proposed, so it is anticipated that they have undertaken sound reduction measures already.

8.4 Acoustic feature corrections need to be applied to the measured levels as per the table shown below:

Acoustic Feature	Perceptibility	Correction (dB)
Tonality (e.g., whine, hum, drone)	Just perceptible	+2 dB
	Clearly perceptible	+4 dB
	Highly perceptible	+6 dB
Impulsivity (e.g., bangs, thuds)	Just perceptible	+3 dB
	Clearly perceptible	+6 dB
	Highly perceptible	+9 dB
Intermittency (distinct on/off conditions)	Readily distinctive	+3 dB
Other features (readily distinctive)	Readily distinctive	+3 dB



VINE ACOUSTICS LIMITED – NOISE IMPACT ASSESSMENT

The following AFC have been applied to the plant at the site

Day Time:

Component	Location	Measured level	Acoustic Feature Correction
Fish & Chip shop & dry cleaners	Facade	54dBA	+3dB – Intermittency +6dB – Highly perceptible Tonality +3dB – readily distinctive

Evening Time:

Component	Location	Measured level	Acoustic Feature Correction
Fish & Chip shop & Thai Restaurant	Facade	50dBA	+3dB – Intermittency +3dB – readily distinctive

The above values were measured at the façade during the attended visits for the day time and evening time periods.

8.5 The final rating level of all plant needs to be compared to the L_{A90} values for the day time and night time period, these are shown in the table below

Background Noise Levels	L_{Aeq} value	L_{Aeq} 15min Value 2300-0000	L_{A90} 1hour value	L_{A90} 15min value (2300-0000hrs)
Day Time	47dBA – taken at 0800hrs prior to the dry cleaners being in operation		40dBA – taken at 0800hrs prior to the dry cleaners being in operation	
Evening Time	46dBA – measured at receptor in the absence of plant		As above – worst case scenario – lowest value between 0700-2300	
Night Time – lowest 15min		N/A		N/A – No plant in operation at night time

Day Time:

Results

Commentary

Ambient Sound Level	Sound Pressure Level = 54dBA @facade	Measured at façade
Residual Sound Level	47dBA	Measured at receptor – L_{Aeq} during day time hours – with neighbouring plant not in operation
Specific Sound Level	53dB	
Acoustic Feature Correction	+12dB	As per table above
Reductions due to distance	None – measured at façade	$L_2 - L_1 - 20\log(r_2/r_1)$
Rating Level	65dBA	Combined Value
Background Sound level	40dBA	Measured on site – with plant off
Excess of rating over background	(40-65) = +25dB	
Assessment indicates adverse impact at receptor – if no mitigation measures implemented		Mitigation measures will be applied to the proposed dwelling



VINE ACOUSTICS LIMITED – NOISE IMPACT ASSESSMENT

Evening Time:

Results	Commentary	
Ambient Sound Level	Sound Pressure Level = 50dBA @facade	Measured source level
Residual Sound Level	46dBA	Measured at receptor – prior to plant being on
Specific Sound Level	48dB	
Acoustic Feature Correction	+6dB	As per table on previous page
Reductions due to distance	None – measured at façade	$L_2 - L_1 - 20\log(r_2/r_1)$
Rating Level	54dBA	Combined Value
Background Sound level	40dBA	Measured on site – with plant off
Excess of rating over background	$(40-54) = +14\text{dB}$	
Assessment indicates adverse impact at receptor – if no mitigation measures implemented		Mitigation measures will be applied to the proposed dwelling

Cumulative Level - if all 3 items are in operation – day time:

Results	Commentary	
Ambient Sound Level	Sound Pressure Level = 55dB	Calculated source level - $10\log(10^{10} 5.4 + 10^{10} 3.7 + 10^5)$
Residual Sound Level	47dBA	
Specific Sound Level	54dB	
Acoustic Feature Correction	+12dB	As per table on previous page
Reductions due to distance	None – calculated at façade	$L_2 - L_1 - 20\log(r_2/r_1)$
Rating Level	66dBA	Combined Value
Background Sound level	40dBA	Measured on site – with plant off
Excess of rating over background	$(40-66) = +26\text{dB}$	
Assessment indicates adverse impact at receptor – if no mitigation measures implemented		Mitigation measures will be applied to the proposed dwelling

8.6 The above tables attempt to calculate the specific noise levels at various times of the day and evening period. Whilst the calculations indicate adverse impact, all mitigation measures need to be applied to the receptor. So, the mitigation measures listed on the following page are all targeting the overall levels of reduction shown on the following page. The dwelling will be ventilated via an alternative ventilation system, and the kitchen/dining room is located at the rear façade, indicating a good acoustic design. All measures shown on the following page will achieve a sound reduction in excess of those needed to ensure a suitable acoustic criterion for the residents and it is also anticipated that they will be able to enjoy periods of natural ventilation with open windows without it leading to a change in behavior.

8.7 The cumulative levels have been included just in case all 3 items of plant are in operation during the day time period. This level of reduction is also mitigated against via the robust and comprehensive measures. There are existing dwellings located closer to the plant than the proposed and they had their windows open during the attended assessments.

8.8 In addition to the commercial noise levels being assessed, due to no plant being in operation during the night time period the $L_{Aeq\ 8\text{hour}}$ has been calculated for robustness, these measurements are included on the following page, including the $L_{1\text{hour}}$ values to indicate the low night time noise levels in this location.



VINE ACOUSTICS LIMITED – NOISE IMPACT ASSESSMENT

8.9 L_{Aeq} Night Time Analysis:

Time Period	dB(A)
2300-0000	44
0000-0100	43
0100-0200	42
0200-0300	43
0300-0400	38
0400-0500	44
0500-0600	56
0600-0700	52
L_{Aeq} 8hour Value	49

8.10 The night time L_{Aeq} values have been included due to the plant not being in operation during this period. It can be seen that the night time values are very low for the majority of the night time period, with an increase at 0500hrs which is attributed to the road traffic using Station Road at the front of the development.

8.11 The mitigation measures listed within this report will ensure a suitable acoustic criterion for the future residents of the scheme based on the measured commercial noise levels and the average noise levels during the night time period.

8.12 The average 8hour $L_{Aeq,T}$ value was calculated via spreadsheet and validated via calculation. It is clear to see that the 1hour values between the hours of 2300-0500hrs are very low and thus the dwelling can be naturally ventilated via open windows for long periods during the night time. This table has been included for robustness and to indicate that the night time noise levels at the rear façade should not lead to adverse impact for the future residents, but the main calculation procured for this façade was the commercial noise assessment due to the operating plant during the day time period.



VINE ACOUSTICS LIMITED – NOISE IMPACT ASSESSMENT

9 Required Levels of Mitigation:

<i>Elevation</i>	Noise Source	Level of Sound Reduction
<i>Front Façade</i>	Road Network	26dBA
<i>Rear Facade</i>	Commercial Noise	25dBA

9.1 It is recommended that the dwellings are ventilated with an alternative ventilation system. These will ensure the dwellings can be ventilated when the windows are closed. The rear rooms will be fitted with a single room MVHR system but have the ability to open their windows as required.

9.2 It is recommended that the dwellings are ventilated with MVHR units (with summer bypass). These will ensure the dwellings can be ventilated when the windows are closed.

Make	Model	Type
Vent-Axia	Sentinel Kinetic Plus	Whole House Ventilation
Titon	HRV1.25 Q Plus with Trimbox NO2 Filter®	Whole House Ventilation
Nuaire	MRXBOXAB-ECO2B Wall Mounted MVHR	Whole House Ventilation

9.3 Another option may be something similar to a wall mounted ventilator, such as:

Make	Model	Type
Titon Direct	Sonair F+	Wall mounted acoustic Ventilation

Acoustic Trickle Vents:

Product	Sound Reduction - open	Sound reduction - closed
RW Simon Acoustic EHA trickle vent	36dB	38dB

If multiple vents are required, then the performance requirement shown above will increase by a value equal to $+10\log(N)$, with N being the total number of vents serving the room.

9.4 Façade Detail – The proposed façade is believed to be something like: - Aggregate block cavity wall, minimum 100mm blocks (minimum density 1350kg/m³), minimum 75mm cavity between leaves, finished with 13mm plaster. This system should achieve a sound reduction of between 50-52dB DnT,w + Ctr 'Code of Practice BS8233: 2014, Page 60 – Table E.1B – Airborne sound insulation of walls and partitions'. Also, a cavity wall system comprising of 7N concrete blocks (two separate frames), have a sound reduction of approximately 53dB (predicted weighted sound reduction index values of Celcon Blockwork – from H&H Celcon). The mansard roof detail will also offer a suitable level of sound reduction for the scheme.

9.5 Roof Detail – The proposed roof detail is believed to be like: Flat roof system with a warm roof detail and with 100mm mineral wool on plasterboard ceiling. This system should achieve a sound reduction of 43dB Rw 'BS8233: 2014, page 41 - Table 8 - The sound insulation of roofs'. A flat roof system will also offer a similar level of reduction to that shown above.

9.6 Windows - The proposed windows to be used is unknown but a robust system offering a sound reduction of more than 28-30dBA has been determined from the various calculations (should exceed requirements) and thus the specifications listed below will offer this level of reduction.

Possible Units	Thickness	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	Overall reduction
SG Solaglass 4-12-6	22mm	23	22	26	46	45	45	34-4=30dB
SG Solaglass 4-10-6	20mm	24	23	28	38	40	42	34-4 = 30dB

9.7 There are many other suitable products, and the client will have to show compliance with the windows before installation, the manufacturer will have the acoustic data for the windows.



VINE ACOUSTICS LIMITED – NOISE IMPACT ASSESSMENT

10 Results Summary:

10.1 The findings of this survey indicate that the noise associated with the immediate site will not have an adverse impact on the proposed residential scheme, providing the necessary mitigation measures are applied to the site.

10.2 The results of the various detailed calculations indicate that the noise emissions associated with area and neighbouring venue will not lead to an adverse impact for the future residents.

10.3 The mitigation measures listed within this report offer suitable sound reduction for the necessary building elements and if they are implemented throughout the site then the future residents should be able to enjoy a reasonable standard of living. Upon implementation of the mitigation measures, the internal & external criteria of BS8233: 2014 should be met within the noise sensitive bedrooms at the proposed development. A BS4142: 2014 +A1: 2019 assessment has also been carried out, showing the absolute level of reduction needed at receptor to ensure no adverse impact for the future residents.

10.4 Planning ProPG states that a good acoustic design process is a vital part of new developments. The client has taken steps to ensure that the existing & future occupants are protected from the noise source, these steps include:

- 1 Install a robust glazing system to the scheme to protect the residents from external noise emissions when closed
- 2 Thermal mass offered by the building fabric
- 3 Alternative ventilation system installed to dwelling to ensure ventilation when windows closed – MVHR with summer bypass or acoustic trickle vents
- 4 Orientation of noise sensitive bedrooms – these are located to the front of the dwelling so away from the plant operating during the evening period
- 5 Kitchen/dining room located on the rear façade with lounge in the middle of the dwelling
- 6 Upgrade separating floor/ceiling to achieve a minimum sound insulation value of 53dB $D_{nT,w}$

10.5 The measures taken by the client should ensure the future residents will not be adversely affected by the noise sources associated with the immediate area.

10.6 Whilst this report recommends an alternative ventilation system to be installed, this is not meant to ensure the dwelling is solely reliant on such. The dwelling can be naturally ventilated for periods of the day time and night time. It is essential to strike a balance between noise, overheating & ventilation and this report offers such measures.



VINE ACOUSTICS NOISE IMPACT ASSESSMENT

1 Internal Measures to separating elements:

11.1 The following are measures that could be implemented to the separating floor/ceiling and perimeter of the building in order to improve the sound attenuation between the ground floor commercial unit & dwelling above. The local authority has requested an overall reduction of 53dB $D_{nT,w} + C_{tr}$

1. Lay timber floor deck
2. Lay 5mm mass loaded vinyl to floor
3. Floorboards/T&G flooring on isolation strips
4. Timber joists filled with rockwool mineral wool – ensuring air gap (possibly on chicken wire to stop falling)
5. Above floor mounted on new floor detail above flat roof – isolation pads below steels
6. Steels should be encased to reduce noise transmission
7. Existing flat roof maintained
8. Existing ceiling in GF space maintained
9. Install MF suspended ceiling to GF commercial unit on acoustic hangers
10. Lay rw3 mineral wool above ceiling – ensuring void between wool & ceiling above
11. Fix 2 x 15mm acoustic plasterboard to ceiling
12. Bond MLV between plasterboards – recommended upgrade
13. Plaster Finish

11.2 It may not be possible to install all of the above due to floor heights and weight added to the floor, so it is recommended that a structural engineer is sought to discuss viable options. The main sound attenuation is achieved via the works to the ceilings, as by treating the ceiling prominent levels of mass and isolation can be achieved.

11.3 In addition to the works on the separating floor, in order to reduce the possibility of flanking transmission it is recommended to install a perimeter wall lining to the upper floor. Such a system could comprise of:

1. Maintain cavity
2. Install an independent wall lining to perimeter
3. Place mineral wool insulation between studs
4. Fix acoustic plasterboard to studs
5. Plaster Finish

11.4 Such a system will improve the isolation between structures and reduce the possibility of flanking transmission. There will be thermal requirements for the dwelling so these will need to be considered when discussing the final system to be installed. Further confirmation regarding the new floor details will also need to be considered for the period to the final construction being decided upon.



VINE ACOUSTICS LIMITED – NOISE IMPACT ASSESSMENT

SITE PLAN





VINE ACOUSTICS LIMITED – NOISE IMPACT ASSESSMENT

Table B-5 Examples of passive ventilation solutions providing enhanced sound insulation

Design option	Description and references	Approximate Level Difference (external free field level – internal reverberant level)	Improvement relative to a window providing a similar amount of ventilation
Standard opening windows	Window(s) open sufficiently to provide a ventilation free-area equivalent to 2% of the floor area. ^[42]	13 dB	0 dB
Open windows with sound attenuating balconies	Window(s) as above. Balconies may have a solid balustrade or be enclosed to a further degree (maintaining an open area for ventilation). Absorption may be provided to the balcony soffit or potentially to other surfaces. ^[49, 50, 51]	17 – 23 dB	4 – 10 dB
Attenuated or plenum windows	Dual windows (spaced by around 200mm) with staggered openings and absorptive linings to the cavity reveals. Various other configurations also possible in principle. ^[52, 53]	17 – 24 dB	4 – 11 dB
Attenuated vents/louvres	Ventilation openings with integral means of attenuating sound. Typically this may be acoustic louvres or acoustically lined ducts/plena. ^[54, 55]	17 – 29 dB	4 – 16 dB
Attenuated windows or vents/louvres with sound attenuating balconies	Combined use of balconies to provide screening and acoustically attenuated windows or vents. Refer to above for description of each element.	21 – 39 dB	8 – 26 dB



VINE ACOUSTICS LIMITED – NOISE IMPACT ASSESSMENT

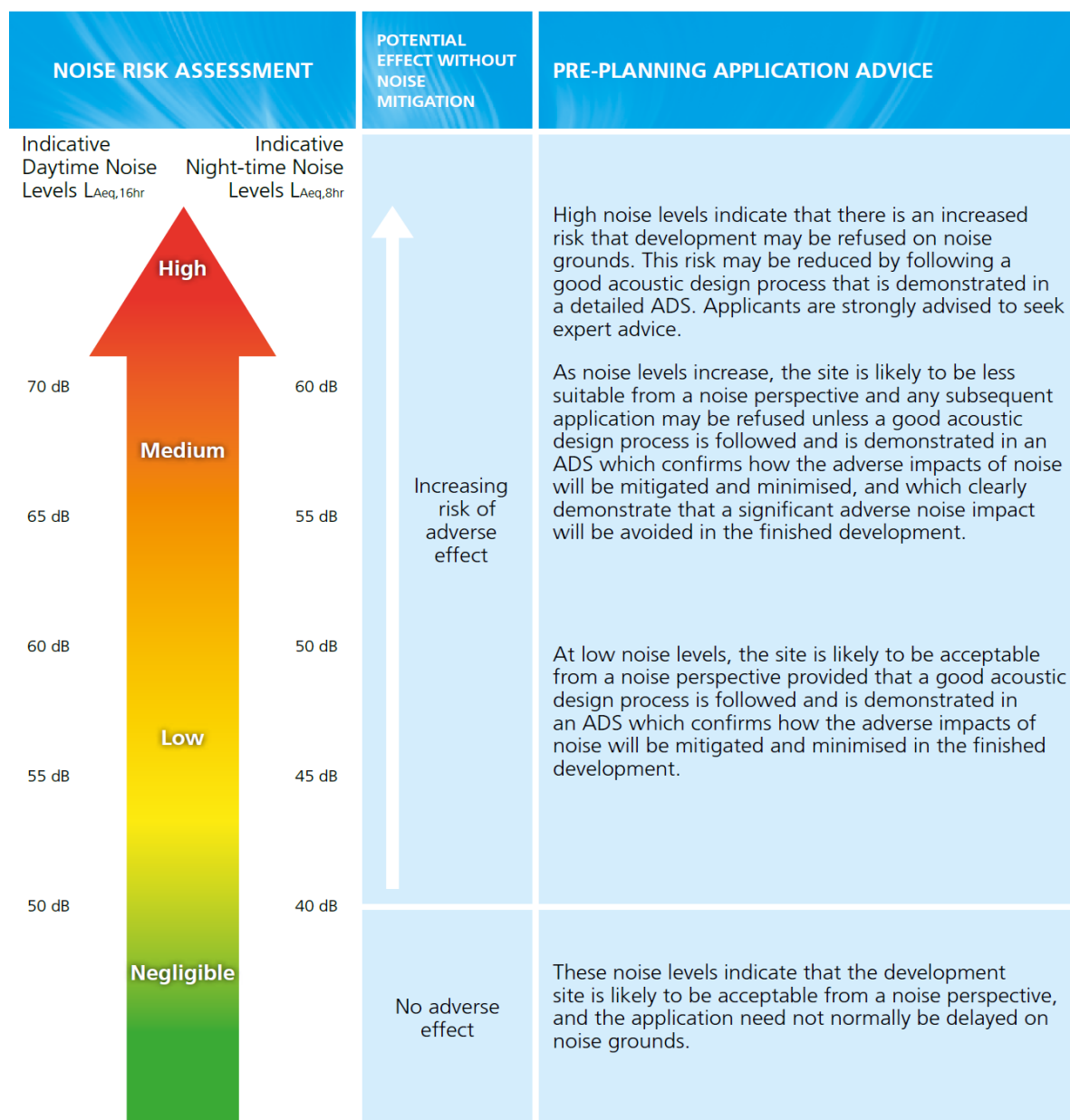


Figure 1 Notes:

- Indicative noise levels should be assessed without inclusion of the acoustic effect of any scheme specific noise mitigation measures.
- Indicative noise levels are the combined free-field noise level from all sources of transport noise and may also include industrial/commercial noise where this is present but is "not dominant".
- $L_{Aeq,16hr}$ is for daytime 0700 – 2300, $L_{Aeq,8hr}$ is for night-time 2300 – 0700.
- An indication that there may be more than 10 noise events at night (2300 – 0700) with $L_{Amax,F} > 60$ dB means the site should not be regarded as negligible risk.

Figure 1. Stage 1– Initial Site Noise Risk Assessment



VINE ACOUSTICS LIMITED – NOISE IMPACT ASSESSMENT

APPENDIX

Continuous equivalent noise level, LAeq — The steady noise level (usually in dBA) which, over the period of time under consideration, contains the same amount of sound energy as the time varying noise.

L_{Amax,F} - The maximum value that the A-weighted sound pressure level reaches during a measurement period using F time-weighting

dB (A) — The A-weighted sound pressure level.

Decibel (dB) — A unit used for many acoustic qualities to indicate the level of sound with respect to a reference level.

A-weighting — A frequency weighting that relates to the response of the human ear.

Background noise level — Prevailing noise level in a specified environment measured in the absence of the noise being studied.

Habitable Room — A room used for sleeping or recreation/relaxation

D_{ne,w} Weighted element normalised level difference — A single-number quantity which characterises the airborne sound insulation of a small building elements.

EPU — Environmental Protection Unit

R_w Weighted sound reduction index — A single-number quantity which characterises the airborne sound insulation of a material or building element measured in the laboratory.

LA₁₀ — The A-weighted noise level exceeded for 10% of the measurement duration.

LA₉₀ - The A-weighted noise level exceeded for 90% of the measurement duration.

British Standards & associated documents:

Code of Practice: BS8233: 2014 - Sound Insulation and noise reduction for buildings.

World Health Organization (WHO) - Guidelines for Community Noise.

Pro PG — Planning & Noise, Residential Development — 2017



VINE ACOUSTICS LIMITED – NOISE IMPACT ASSESSMENT





VINE ACOUSTICS LIMITED – NOISE IMPACT ASSESSMENT

ML 1

Time Period	LAeq	LAmx
(2026/01/28 10:27:02.00)	61.8	78.2
(2026/01/28 10:30:02.00)	59.3	68.4
(2026/01/28 10:33:02.00)	62.3	76.8
(2026/01/28 10:36:02.00)	60.2	72.1
(2026/01/28 10:39:02.00)	60.7	68.5
(2026/01/28 10:42:02.00)	60.5	67.7
(2026/01/28 10:45:02.00)	59	66.6
(2026/01/28 10:48:02.00)	60.7	69
(2026/01/28 10:51:02.00)	61.5	68.8
(2026/01/28 10:54:02.00)	60.6	69.8
(2026/01/28 10:57:02.00)	59.8	67.8
(2026/01/28 11:00:02.00)	60.4	68.6
(2026/01/28 11:03:02.00)	61.3	69.8
(2026/01/28 11:06:02.00)	60.9	68.3
(2026/01/28 11:09:02.00)	60.7	75.8
(2026/01/28 11:12:02.00)	61.3	70.9
(2026/01/28 11:15:02.00)	60.9	68.1
(2026/01/28 11:18:02.00)	60.1	70.3
(2026/01/28 11:21:02.00)	60.1	67
(2026/01/28 11:24:02.00)	60.6	67.6
(2026/01/28 11:27:02.00)	60.5	68.9
(2026/01/28 11:30:02.00)	61	68.4
(2026/01/28 11:33:02.00)	61.3	75.5
(2026/01/28 11:36:02.00)	59.9	68.3
(2026/01/28 11:39:02.00)	62.1	70.5
(2026/01/28 11:42:02.00)	61.4	69.1
(2026/01/28 11:45:02.00)	62	76.3
(2026/01/28 11:48:02.00)	62	68.4
(2026/01/28 11:51:02.00)	62.8	69.1
(2026/01/28 11:54:02.00)	61.2	70.3
(2026/01/28 11:57:02.00)	61.5	68.5
(2026/01/28 12:00:02.00)	62	69.4
(2026/01/28 12:03:02.00)	60.4	67.9
(2026/01/28 12:06:02.00)	62.6	70.1
(2026/01/28 12:09:02.00)	63.2	70.3
(2026/01/28 12:12:02.00)	62.8	73
(2026/01/28 12:15:02.00)	61.6	69
(2026/01/28 12:18:02.00)	61.9	67.5
(2026/01/28 12:21:02.00)	61.1	68.8
(2026/01/28 12:24:02.00)	63.8	71.7
(2026/01/28 12:27:02.00)	63.6	80.9



(2026/01/28 12:30:02.00)	61.4	68.2
(2026/01/28 12:33:02.00)	60.1	67.8
(2026/01/28 12:36:02.00)	61.1	68.4
(2026/01/28 12:39:02.00)	58	67.4
(2026/01/28 12:42:02.00)	60	67.3
(2026/01/28 12:45:02.00)	61.9	76.5
(2026/01/28 12:48:02.00)	61	70.6
(2026/01/28 12:51:02.00)	60.6	70.5
(2026/01/28 12:54:02.00)	61.7	72.5
(2026/01/28 12:57:02.00)	59.3	66.2
(2026/01/28 13:00:02.00)	60	67.8
(2026/01/28 13:03:02.00)	62.9	78.5
(2026/01/28 13:06:02.00)	67.5	84.2
(2026/01/28 13:09:02.00)	62.2	69.9
(2026/01/28 13:12:02.00)	61.6	69.1
(2026/01/28 13:15:02.00)	60	66.5
(2026/01/28 13:18:02.00)	61.1	67.8
(2026/01/28 13:21:02.00)	61.1	75.3
(2026/01/28 13:24:02.00)	57.9	66.5
(2026/01/28 13:27:02.00)	60.3	67.4
(2026/01/28 13:30:02.00)	63.7	78.3
(2026/01/28 13:33:02.00)	60.1	68.3
(2026/01/28 13:36:02.00)	59.6	70
(2026/01/28 13:39:02.00)	61.6	74.4
(2026/01/28 13:42:02.00)	61	80.1
(2026/01/28 13:45:02.00)	60	69.1
(2026/01/28 13:48:02.00)	58.6	68.8
(2026/01/28 13:51:02.00)	57	64.8
(2026/01/28 13:54:02.00)	61	70.4
(2026/01/28 13:57:02.00)	59.2	65.8
(2026/01/28 14:00:02.00)	60.3	68.2
(2026/01/28 14:03:02.00)	59.2	64.9
(2026/01/28 14:06:02.00)	59.7	69.3
(2026/01/28 14:09:02.00)	59.6	65.7
(2026/01/28 14:12:02.00)	59.8	67.3
(2026/01/28 14:15:02.00)	59.4	71.7
(2026/01/28 14:18:02.00)	58.9	65.7
(2026/01/28 14:21:02.00)	59.8	67.7
(2026/01/28 14:24:02.00)	59.2	68.6
(2026/01/28 14:27:02.00)	58.1	65
(2026/01/28 14:30:02.00)	61.2	69.1
(2026/01/28 14:33:02.00)	60	67
(2026/01/28 14:36:02.00)	61.8	70.4
(2026/01/28 14:39:02.00)	61.8	82.7



(2026/01/28 14:42:02.00)	60.5	67.1
(2026/01/28 14:45:02.00)	64.3	77.9
(2026/01/28 14:48:02.00)	62.1	74.4
(2026/01/28 14:51:02.00)	60.7	69.3
(2026/01/28 14:54:02.00)	60.8	66.7
(2026/01/28 14:57:02.00)	61.1	67.4
(2026/01/28 15:00:02.00)	60.8	67.4
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(2026/01/28 15:45:02.00)	61	68.3
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(2026/01/28 16:09:02.00)	59.2	67.7
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(2026/01/28 21:06:02.00)	54.6	67.6
(2026/01/28 21:09:02.00)	56.1	66.1
(2026/01/28 21:12:02.00)	57.3	69
(2026/01/28 21:15:02.00)	54.5	67.7
(2026/01/28 21:18:02.00)	56.4	70.4
(2026/01/28 21:21:02.00)	54.8	66.6



(2026/01/28 21:24:02.00)	56.8	67.3
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(2026/01/28 21:42:02.00)	54	68.7
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(2026/01/28 21:51:02.00)	53.7	63.1
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(2026/01/28 22:33:02.00)	54.6	67.5
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(2026/01/28 22:39:02.00)	52.4	64.9
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(2026/01/28 22:45:02.00)	50.2	60.5
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(2026/01/28 22:57:02.00)	50.7	61.2
(2026/01/28 23:00:02.00)	45.8	52
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(2026/01/28 23:30:02.00)	49.6	61.9
(2026/01/28 23:33:02.00)	56.9	72



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(2026/01/28 23:39:02.00)	45.2	52.2
(2026/01/28 23:42:02.00)	52.2	65.5
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(2026/01/29 00:30:02.00)	53.8	70.5
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(2026/01/29 02:24:02.00)	47	55.4
(2026/01/29 02:27:02.00)	48.5	61.1
(2026/01/29 02:30:02.00)	45.4	51.4
(2026/01/29 02:33:02.00)	53.1	65.9
(2026/01/29 02:36:02.00)	45.2	54.2
(2026/01/29 02:39:02.00)	45	52.2
(2026/01/29 02:42:02.00)	46	54.6
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(2026/01/29 02:48:02.00)	44.5	52.8
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(2026/01/29 03:27:02.00)	42.9	47.7
(2026/01/29 03:30:02.00)	44.4	49.9
(2026/01/29 03:33:02.00)	44.2	50.1
(2026/01/29 03:36:02.00)	52.4	69.1
(2026/01/29 03:39:02.00)	43.4	49.1
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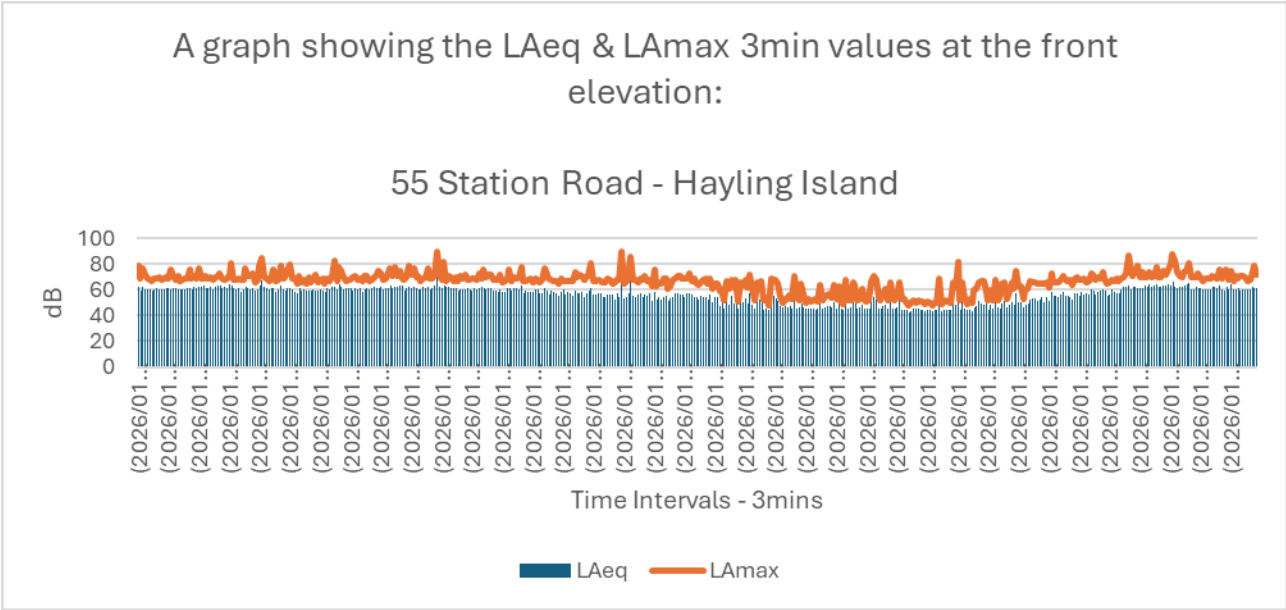
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(2026/01/29 04:54:02.00)	45.1	53.5
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(2026/01/29 05:06:02.00)	48.4	58.9
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(2026/01/29 05:24:02.00)	46.8	52.8
(2026/01/29 05:27:02.00)	48.6	59.3
(2026/01/29 05:30:02.00)	49.6	61.2
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(2026/01/29 05:36:02.00)	53	65.7
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(2026/01/29 07:00:02.00)	58.4	70.2
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(2026/01/29 07:12:02.00)	55.7	64.4
(2026/01/29 07:15:02.00)	56.2	65.8
(2026/01/29 07:18:02.00)	60.4	67.6
(2026/01/29 07:21:02.00)	58.3	67.1
(2026/01/29 07:24:02.00)	57.7	68.5
(2026/01/29 07:27:02.00)	57.7	66.8
(2026/01/29 07:30:02.00)	60.5	68.4
(2026/01/29 07:33:02.00)	62	69.7
(2026/01/29 07:36:02.00)	62.7	73.2
(2026/01/29 07:39:02.00)	63	86.3
(2026/01/29 07:42:02.00)	60.3	73.8
(2026/01/29 07:45:02.00)	62	70.6
(2026/01/29 07:48:02.00)	61.9	74.9
(2026/01/29 07:51:02.00)	61.2	79.1
(2026/01/29 07:54:02.00)	60.8	70.2
(2026/01/29 07:57:02.00)	61.4	74.1
(2026/01/29 08:00:02.00)	63.5	70.1
(2026/01/29 08:03:02.00)	62.7	70.2
(2026/01/29 08:06:02.00)	64.7	73.6
(2026/01/29 08:09:02.00)	62.4	69.8
(2026/01/29 08:12:02.00)	63.2	70.4
(2026/01/29 08:15:02.00)	63.9	78
(2026/01/29 08:18:02.00)	61.8	70.1
(2026/01/29 08:21:02.00)	62	69.4
(2026/01/29 08:24:02.00)	63.4	74.3
(2026/01/29 08:27:02.00)	63.5	71.6



(2026/01/29 08:30:02.00)	63.9	75.5
(2026/01/29 08:33:02.00)	63.6	81.1
(2026/01/29 08:36:02.00)	66.5	87.9
(2026/01/29 08:39:02.00)	62.2	82.8
(2026/01/29 08:42:02.00)	61.3	74.1
(2026/01/29 08:45:02.00)	62.1	70.5
(2026/01/29 08:48:02.00)	62.3	69.9
(2026/01/29 08:51:02.00)	63	74.1
(2026/01/29 08:54:02.00)	64.1	75
(2026/01/29 08:57:02.00)	65.3	80.6
(2026/01/29 09:00:02.00)	60.7	70.2
(2026/01/29 09:03:02.00)	60.6	69.5
(2026/01/29 09:06:02.00)	62.2	69.6
(2026/01/29 09:09:02.00)	61.2	72.5
(2026/01/29 09:12:02.00)	60.8	70.2
(2026/01/29 09:15:02.00)	60.5	66.8
(2026/01/29 09:18:02.00)	60.6	69
(2026/01/29 09:21:02.00)	60.7	68.8
(2026/01/29 09:24:02.00)	60.5	69.2
(2026/01/29 09:27:02.00)	62.1	70.4
(2026/01/29 09:30:02.00)	61.8	70.2
(2026/01/29 09:33:02.00)	61.5	68.8
(2026/01/29 09:36:02.00)	63.2	75.7
(2026/01/29 09:39:02.00)	60.7	68.4
(2026/01/29 09:42:02.00)	59	73.5
(2026/01/29 09:45:02.00)	62.6	76.1
(2026/01/29 09:48:02.00)	60	67.9
(2026/01/29 09:51:02.00)	64.5	74.9
(2026/01/29 09:54:02.00)	60	66.8
(2026/01/29 09:57:02.00)	60.7	70.5
(2026/01/29 10:00:02.00)	60.8	68.9
(2026/01/29 10:03:02.00)	59.4	70.9
(2026/01/29 10:06:02.00)	59.9	70.7
(2026/01/29 10:09:02.00)	59.9	69.6
(2026/01/29 10:12:02.00)	59.9	66.8
(2026/01/29 10:15:02.00)	59.9	67.9
(2026/01/29 10:18:02.00)	62.3	71.2
(2026/01/29 10:21:02.00)	60.9	78.5
(2026/01/29 10:24:02.00)	61.1	71.7





ML 2:

Time Period	LAeq	LAmx	LA90
(2026/01/31 09:30:02.00)	55.8	65.6	54.3
(2026/01/31 09:45:02.00)	54.7	64.1	50.8
(2026/01/31 10:00:02.00)	54.5	60	52.8
(2026/01/31 10:15:02.00)	51.3	58.5	45.9
(2026/01/31 10:30:02.00)	52.9	67.7	50.3
(2026/01/31 10:45:02.00)	52.7	64	50.5
(2026/01/31 11:00:02.00)	54.9	62.2	52.2
(2026/01/31 11:15:02.00)	54.1	61.5	51.7
(2026/01/31 11:30:02.00)	54.8	63.7	51.8
(2026/01/31 11:45:02.00)	54.4	62.4	53.1
(2026/01/31 12:00:02.00)	53.6	66	50.9
(2026/01/31 12:15:02.00)	52.2	57.3	50.8
(2026/01/31 12:30:02.00)	52.5	64.4	50.8
(2026/01/31 12:45:02.00)	53.7	65.7	51
(2026/01/31 13:00:02.00)	52.8	66.9	51
(2026/01/31 13:15:02.00)	53.2	64.9	50.7
(2026/01/31 13:30:02.00)	54.2	61.8	53
(2026/01/31 13:45:02.00)	53.5	68.3	51.2
(2026/01/31 14:00:02.00)	51.8	63	44.7
(2026/01/31 14:15:02.00)	53.5	58.4	52.4
(2026/01/31 14:30:02.00)	53.1	66.3	45.5
(2026/01/31 14:45:02.00)	52.7	82	44
(2026/01/31 15:00:02.00)	49.9	71.9	45.1
(2026/01/31 15:15:02.00)	51.5	68.4	44.5
(2026/01/31 15:30:02.00)	52.1	74.9	46.1
(2026/01/31 15:45:02.00)	59	91.3	44.8
(2026/01/31 16:00:02.00)	50.1	61.8	44.1
(2026/01/31 16:15:02.00)	49.2	62.7	43.4
(2026/01/31 16:30:02.00)	50.1	61.7	44.7
(2026/01/31 16:45:02.00)	49.6	61.4	45.2
(2026/01/31 17:00:02.00)	51.9	71	45.5
(2026/01/31 17:15:02.00)	51.4	69.2	45
(2026/01/31 17:30:02.00)	51	70.1	44.1
(2026/01/31 17:45:02.00)	48.8	62.9	43.8
(2026/01/31 18:00:02.00)	48.7	60.5	44.2
(2026/01/31 18:15:02.00)	47.7	57.3	43.2
(2026/01/31 18:30:02.00)	47.7	62.7	43.4
(2026/01/31 18:45:02.00)	47.6	59.2	43.6
(2026/01/31 19:00:02.00)	47.6	62.4	43.6
(2026/01/31 19:15:02.00)	48.4	59.9	44.4
(2026/01/31 19:30:02.00)	47.9	57.4	44.3



(2026/01/31 19:45:02.00)	49	71.5	44.2
(2026/01/31 20:00:02.00)	48.7	61.3	44
(2026/01/31 20:15:02.00)	47.7	66.1	44.1
(2026/01/31 20:30:02.00)	47.4	68.1	44
(2026/01/31 20:45:02.00)	46.5	57.8	44
(2026/01/31 21:00:02.00)	46.8	59.3	43.4
(2026/01/31 21:15:02.00)	47.1	64.6	40.9
(2026/01/31 21:30:02.00)	46.2	59.3	41
(2026/01/31 21:45:02.00)	47.6	66.6	43.1
(2026/01/31 22:00:02.00)	47.9	67.2	43.5
(2026/01/31 22:15:02.00)	45.8	62.2	42.7
(2026/01/31 22:30:02.00)	46.4	68.4	39.8
(2026/01/31 22:45:02.00)	44.4	57.4	39.5
(2026/01/31 23:00:02.00)	44.2	57.8	39.5
(2026/01/31 23:15:02.00)	43.4	56.7	38.8
(2026/01/31 23:30:02.00)	43.4	67.6	39.6
(2026/01/31 23:45:02.00)	43.1	56.6	38.8
(2026/02/01 00:00:03.00)	43.7	59.9	39.7
(2026/02/01 00:15:02.00)	44.2	55	41.1
(2026/02/01 00:30:02.00)	41.2	54.8	38.8
(2026/02/01 00:45:02.00)	42.4	56.7	40.2
(2026/02/01 01:00:02.00)	41.9	56.1	39
(2026/02/01 01:15:02.00)	40.6	55.9	37.9
(2026/02/01 01:30:02.00)	40	55.6	37.6
(2026/02/01 01:45:02.00)	45.1	55.7	38.5
(2026/02/01 02:00:02.00)	47.4	61.6	46.6
(2026/02/01 02:15:02.00)	41.1	48.3	37.7
(2026/02/01 02:30:02.00)	39.7	53.8	36.9
(2026/02/01 02:45:02.00)	37.4	41.1	35.9
(2026/02/01 03:00:02.00)	37.5	46.5	35.3
(2026/02/01 03:15:02.00)	38.2	52.9	35.6
(2026/02/01 03:30:02.00)	39.2	51.9	36.3
(2026/02/01 03:45:02.00)	37.9	49.5	35.5
(2026/02/01 04:00:02.00)	39.1	57.8	35.2
(2026/02/01 04:15:02.00)	38.4	52.8	34.7
(2026/02/01 04:30:02.00)	40.9	54	34.9
(2026/02/01 04:45:02.00)	48.2	71.8	40.5
(2026/02/01 05:00:02.00)	45.2	58.9	41.9
(2026/02/01 05:15:02.00)	52.8	65.6	46.5
(2026/02/01 05:30:02.00)	61.6	76.2	49.3
(2026/02/01 05:45:02.00)	44.7	60.1	38.7
(2026/02/01 06:00:02.00)	44.1	59.8	36.8
(2026/02/01 06:15:02.00)	52.4	69.7	35.7
(2026/02/01 06:30:02.00)	53.8	75.4	37.6



(2026/02/01 06:45:02.00)	53.3	70.9	41.4
(2026/02/01 07:00:02.00)	53.6	75.8	45.1
(2026/02/01 07:15:02.00)	51.7	81.4	41.8
(2026/02/01 07:30:02.00)	49.1	63.1	43.1
(2026/02/01 07:45:02.00)	48.4	70.6	41.4
(2026/02/01 08:00:02.00)	45.2	58.7	38.8
(2026/02/01 08:15:02.00)	48.2	62.9	40.1
(2026/02/01 08:30:02.00)	46.8	59.2	39.5
(2026/02/01 08:45:02.00)	47.5	59.5	40.1
(2026/02/01 09:00:02.00)	54.9	65.2	53.2
(2026/02/01 09:15:02.00)	53.9	61.2	52.6

A graph showing LAeq, LAmx & LA90 15min values at the rear elevation:

55 Station Road, Hayling Island

