

REPORT REFERENCE:

SA – 4823 / Plot 46

## INTERNAL NOISE ASSESSMENT

CLIENT:

Persimmon Homes  
100 Wickham Road  
Fareham  
Hampshire  
PO16 7HT

SITE:

Plot 46  
St Georges Keep  
St Georges Avenue  
Havant  
PO9 2RU

SURVEY DATES:

4<sup>th</sup> – 5<sup>th</sup> October 2022

Report Presented By

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## **1 INTRODUCTION**

Sound Advice Acoustics Ltd have been instructed by Persimmon Homes to undertake a background noise survey to British Standard 8233: 2014 to determine the impact of existing noise sources on the recently built accommodation scheme at Plot 46, St Georges Keep, St Georges Avenue, Havant, PO9 2RU.

Internal noise levels were recorded in the Living Room and the Bedroom of plot 46. The measurements were taken over continuous 1 minute periods and are averaged over the relevant assessment periods as agreed. The following tabulated results have been evaluated from the attached figures 1- 2 for internal measurements. These measurements have demonstrated compliance with the relevant standards.

Therefore, at this stage no further remedial works are required with regards to acoustics.

Planning permission has been granted for the site and the following condition has been imposed:

Plots 37, 41, 42, 43, 44, 45, 46, 47, 48, 49 and 50 as shown on the approved plan, A-02-020-SP Rev F, shall not be occupied unless and until mitigation has been installed and demonstrated through post validation testing to determine compliance with the noise impact assessment as provided by Noise Impact Assessment (SA-4823-5, dated February 2019). This shall be submitted to and agreed in writing by the Local Planning Authority. This report is to confirm the expected noise levels within the proposed dwellings have been achieved and are in line with those levels laid out in BS8233:2014, and recommended for indoor ambient noise levels for dwellings, especially in relation to living rooms and bedrooms i.e. during the day (07:00 to 23:00) 35 dB L Aeq,16 hour and at night (23:00 to 07:00) 30 dB L Aeq,8 hour for bedrooms. the glazing and ventilation strategy mitigation measures outlined in the Noise Impact Assessment (SA-4823-5, dated February 2019), shall be retained at all times, unless otherwise agreed in writing by the Local Planning Authority.

Reason: To ensure the residential amenity of the residents of the properties are not impacted upon by any external noise levels and having due regard to policy CS16 of the Havant Borough Local Plan (Core Strategy) 2011 and the National Planning Policy Framework.

Therefore, this report looks to discharge the above condition.

## 2 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.

### 2.1 Norsonic noise meter s/n 1403140 environmental testing

| Description                         | Make     | Type | Serial No. | Calibration Intervals | Last Calibrated | Next Due Calibration |
|-------------------------------------|----------|------|------------|-----------------------|-----------------|----------------------|
| Integrated Sound Level Meter        | Norsonic | 140  | 1403140    | 2 YEARS               | 06.04.2021      | 06.04.2023           |
| 12.5mm Microphone (with windshield) | Norsonic | 1225 | 413206     | 2 YEARS               | 17.11.2021      | 17.11.2023           |
| Microphone Pre – Amplifier          | Norsonic | 1209 | 12245      | 2 YEARS               | 06.04.2021      | 06.04.2023           |

### 2.2 Norsonic noise meter s/n 1402941 environmental testing

| Description                         | Make     | Type      | Serial No. | Calibration Intervals | Last Calibrated | Next Due Calibration |
|-------------------------------------|----------|-----------|------------|-----------------------|-----------------|----------------------|
| Integrated Sound Level Meter        | Norsonic | 140       | 1402941    | 2 YEARS               | 25.07.2022      | 25.07.2024           |
| 12.5mm Microphone (with windshield) | Norsonic | GRAS 40AF | 179711     | 2 YEARS               | 25.07.2022      | 25.07.2024           |
| Microphone Pre – Amplifier          | Norsonic | 1209      | 30479      | 2 YEARS               | 25.07.2022      | 25.07.2024           |

Full calibration certificates are available upon request.

### 3 INDOOR LIVING AREAS

BS 8233: 2014 set the following parameters as target levels that should be designed to within rooms such as Living Rooms and Bedrooms.

Table 2 Indoor ambient noise levels in spaces when they are unoccupied and privacy is also important

| Objective                                                  | Typical situations        | Design Range   |
|------------------------------------------------------------|---------------------------|----------------|
|                                                            |                           | $L_{Aeq,t}$ dB |
| Typical noise levels for acoustic privacy in shared spaces | Restaurant                | 40 – 55        |
|                                                            | Open plan office          | 45 – 50        |
|                                                            | Night club, public house  | 40 – 45        |
|                                                            | Ballroom, banqueting hall | 35 – 40        |
|                                                            | Living room               | 35 – 40        |

NOTE See Noise control in building services [28] and BS EN ISO 3382.

Table 4 Indoor ambient noise levels for dwellings

| Activity                   | Location           | 07:00 – 23:00           | 23:00 – 07:00          |
|----------------------------|--------------------|-------------------------|------------------------|
| Resting                    | Living Room        | 35 dB $L_{Aeq}$ 16 HOUR | --                     |
| Dining                     | Dining Room / Area | 40 dB $L_{Aeq}$ 16 HOUR | --                     |
| Sleeping (daytime resting) | Bedroom            | 35 dB $L_{Aeq}$ 16 HOUR | 30 dB $L_{Aeq}$ 8 HOUR |

### 3.1 Summary of Results

#### Daytime Internal Noise Levels $L_{Aeq}$ 16 HOUR dB

| Room                  | 4 <sup>th</sup> October 2022 |
|-----------------------|------------------------------|
| Plot 46 – Living Room | 33.7                         |

#### Night Time Internal Noise Levels $L_{Aeq}$ 8 HOUR dB

| Room              | 4 <sup>th</sup> – 5 <sup>th</sup> October 2022 |
|-------------------|------------------------------------------------|
| Plot 46 - Bedroom | 29.3                                           |

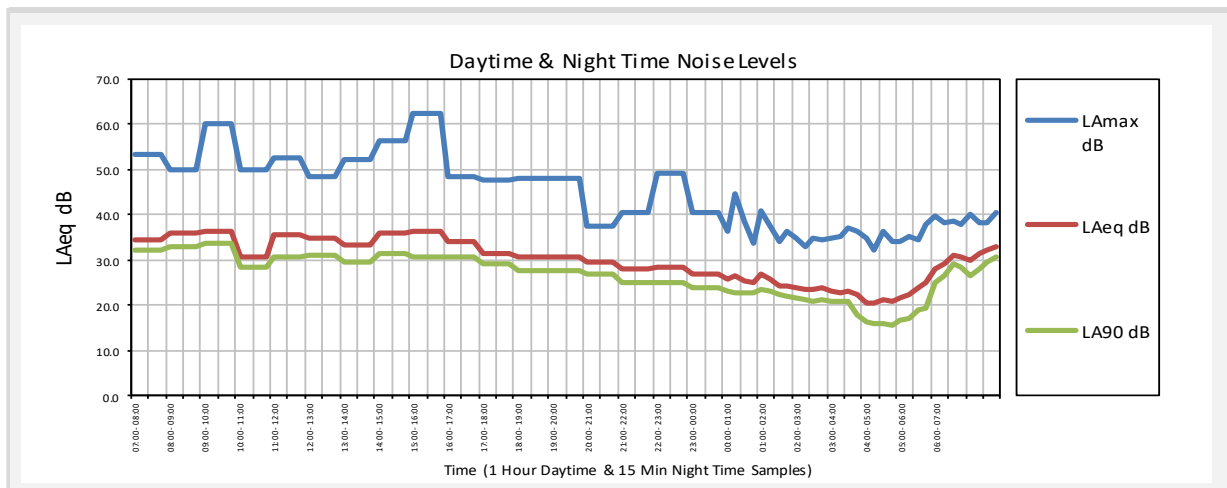
## 4 APPENDIX A – RESULTS

### 4.1 Plot 46 – Living Room 4<sup>th</sup> – 5<sup>th</sup> October 2022

| NOISE LEVEL SUMMARY ASSESSMENT                                       |      |       |      | Octave Band Centre Frequency (Hz) |      |      |      |      |      |      |      |       |
|----------------------------------------------------------------------|------|-------|------|-----------------------------------|------|------|------|------|------|------|------|-------|
| Date / Time                                                          | LAeq | LAmix | LA90 | 63                                | 125  | 250  | 500  | 1.0k | 2.0k | 4.0k | 8.0k | 16.0k |
| DAYTIME 07:00 - 23:00<br>LAeq 16 HOUR & Corresponding LAmix 16 HOUR  | 33.7 | 62.5  | 31.0 | 41.4                              | 42.0 | 36.7 | 26.9 | 29.5 | 21.0 | 15.2 | 9.9  | 8.0   |
| NIGHT TIME 23:00 - 07:00<br>LAeq 8 HOUR & Corresponding LAmix 8 HOUR | 27.0 | 44.6  | 21.0 | 33.2                              | 32.6 | 29.1 | 21.4 | 23.8 | 14.0 | 8.6  | 9.2  | 8.0   |

| DAYTIME NOISE LEVELS 07:00 - 23:00 1 HOUR SAMPLES |      |       |      |      |      |      |      |       |       |       |       |        |
|---------------------------------------------------|------|-------|------|------|------|------|------|-------|-------|-------|-------|--------|
| Date / Time                                       | LAeq | LAmix | LA90 | 63   | 125  | 250  | 500  | 1.0 k | 2.0 k | 4.0 k | 8.0 k | 16.0 k |
| 07:00 - 08:00                                     | 34.3 | 28.4  | 32.1 | 39.0 | 36.5 | 34.2 | 28.7 | 32.3  | 22.9  | 10.6  | 9.2   | 8.0    |
| 08:00 - 09:00                                     | 35.9 | 49.8  | 32.9 | 45.1 | 43.4 | 38.3 | 29.4 | 32.4  | 23.3  | 15.6  | 9.5   | 8.0    |
| 09:00 - 10:00                                     | 36.4 | 60.2  | 33.5 | 46.3 | 43.9 | 39.1 | 29.9 | 32.0  | 24.3  | 22.6  | 14.7  | 8.5    |
| 10:00 - 11:00                                     | 30.9 | 49.8  | 28.3 | 38.8 | 37.5 | 34.2 | 25.3 | 26.9  | 18.4  | 14.3  | 9.3   | 8.0    |
| 11:00 - 12:00                                     | 35.8 | 52.5  | 30.7 | 41.9 | 46.1 | 40.0 | 27.0 | 29.1  | 21.1  | 15.6  | 9.4   | 8.0    |
| 12:00 - 13:00                                     | 34.8 | 48.4  | 31.1 | 43.4 | 44.2 | 38.7 | 26.9 | 29.8  | 22.7  | 16.6  | 9.6   | 8.0    |
| 13:00 - 14:00                                     | 33.5 | 52.1  | 29.6 | 39.1 | 42.4 | 36.8 | 26.4 | 29.0  | 19.9  | 12.5  | 9.3   | 8.0    |
| 14:00 - 15:00                                     | 36.0 | 56.2  | 31.6 | 44.5 | 46.5 | 40.2 | 27.3 | 29.5  | 22.3  | 17.0  | 9.6   | 8.0    |
| 15:00 - 16:00                                     | 36.4 | 62.5  | 30.6 | 43.7 | 45.6 | 40.6 | 31.0 | 30.5  | 23.1  | 18.0  | 9.9   | 8.0    |
| 16:00 - 17:00                                     | 33.9 | 48.4  | 30.8 | 40.0 | 41.3 | 36.1 | 27.0 | 30.5  | 22.1  | 12.0  | 9.2   | 8.0    |
| 17:00 - 18:00                                     | 31.5 | 47.7  | 29.1 | 36.8 | 34.5 | 31.8 | 25.3 | 29.5  | 19.9  | 9.0   | 9.1   | 8.0    |
| 18:00 - 19:00                                     | 30.6 | 47.9  | 27.9 | 36.1 | 33.0 | 30.3 | 24.6 | 28.7  | 18.6  | 9.4   | 9.1   | 8.0    |
| 19:00 - 20:00                                     | 29.5 | 37.5  | 26.9 | 35.6 | 35.1 | 31.0 | 23.0 | 26.9  | 17.0  | 8.9   | 9.1   | 8.0    |
| 20:00 - 21:00                                     | 27.9 | 40.7  | 25.2 | 34.6 | 34.8 | 30.5 | 21.1 | 24.7  | 15.1  | 8.5   | 9.1   | 8.0    |
| 21:00 - 22:00                                     | 28.3 | 49.1  | 25.0 | 34.8 | 35.1 | 30.8 | 22.8 | 24.7  | 15.3  | 8.7   | 9.2   | 8.0    |
| 22:00 - 23:00                                     | 27.1 | 40.7  | 24.1 | 33.1 | 34.7 | 29.7 | 20.1 | 23.4  | 14.0  | 8.5   | 9.2   | 8.0    |

| NIGHT TIME NOISE LEVELS 23:00 - 07:00 15 MINUTE SAMPLES |      |       |      |      |      |      |      |       |       |       |       |        |
|---------------------------------------------------------|------|-------|------|------|------|------|------|-------|-------|-------|-------|--------|
| Date / Time                                             | LAeq | LAmix | LA90 | 63   | 125  | 250  | 500  | 1.0 k | 2.0 k | 4.0 k | 8.0 k | 16.0 k |
| 23:00 - 23:15                                           | 26.0 | 36.3  | 23.3 | 33.2 | 34.4 | 29.2 | 19.0 | 21.5  | 12.4  | 8.4   | 9.2   | 8.0    |
| 23:15 - 23:30                                           | 26.7 | 44.6  | 22.9 | 33.3 | 34.7 | 31.3 | 19.9 | 21.7  | 12.5  | 8.5   | 9.2   | 8.0    |
| 23:30 - 23:45                                           | 25.3 | 38.7  | 22.6 | 31.6 | 34.3 | 28.7 | 19.0 | 19.9  | 11.5  | 8.4   | 9.2   | 8.0    |
| 23:45 - 00:00                                           | 24.9 | 33.9  | 22.6 | 31.4 | 34.0 | 28.5 | 16.8 | 19.8  | 11.2  | 8.3   | 9.2   | 8.0    |
| 00:00 - 00:15                                           | 27.0 | 40.9  | 23.6 | 32.0 | 35.5 | 30.6 | 19.3 | 22.5  | 13.2  | 8.4   | 9.2   | 8.0    |
| 00:15 - 00:30                                           | 25.8 | 37.6  | 23.1 | 32.6 | 34.3 | 29.1 | 18.2 | 21.3  | 12.5  | 8.5   | 9.2   | 8.0    |
| 00:30 - 00:45                                           | 24.3 | 34.1  | 22.3 | 31.0 | 33.6 | 28.4 | 16.2 | 18.7  | 10.7  | 8.3   | 9.2   | 8.0    |
| 00:45 - 01:00                                           | 24.3 | 36.4  | 21.9 | 30.5 | 33.3 | 27.7 | 16.3 | 19.3  | 11.1  | 8.4   | 9.2   | 8.0    |
| 01:00 - 01:15                                           | 23.8 | 34.8  | 21.5 | 30.8 | 33.0 | 27.4 | 16.4 | 18.3  | 10.0  | 8.3   | 9.1   | 8.0    |
| 01:15 - 01:30                                           | 23.5 | 33.0  | 21.4 | 31.5 | 32.9 | 27.3 | 16.3 | 17.4  | 9.6   | 8.3   | 9.2   | 8.0    |
| 01:30 - 01:45                                           | 23.4 | 35.0  | 21.0 | 30.3 | 32.5 | 26.8 | 15.7 | 17.9  | 10.1  | 8.4   | 9.2   | 8.0    |
| 01:45 - 02:00                                           | 23.9 | 34.6  | 21.4 | 31.5 | 32.8 | 27.6 | 17.5 | 18.4  | 10.5  | 8.7   | 9.2   | 8.0    |
| 02:00 - 02:15                                           | 23.0 | 34.7  | 21.0 | 30.5 | 32.2 | 26.7 | 15.3 | 17.0  | 9.9   | 8.6   | 9.2   | 8.0    |
| 02:15 - 02:30                                           | 22.8 | 35.1  | 20.9 | 30.8 | 32.2 | 26.7 | 15.0 | 16.5  | 9.5   | 8.5   | 9.2   | 8.0    |
| 02:30 - 02:45                                           | 23.0 | 37.3  | 21.0 | 30.2 | 32.1 | 26.6 | 15.1 | 17.1  | 10.4  | 8.7   | 9.2   | 8.0    |
| 02:45 - 03:00                                           | 22.4 | 36.5  | 17.9 | 30.4 | 27.2 | 23.3 | 16.9 | 19.0  | 10.8  | 8.7   | 9.2   | 8.0    |
| 03:00 - 03:15                                           | 20.4 | 35.0  | 16.2 | 28.7 | 22.8 | 19.9 | 14.6 | 17.2  | 9.6   | 8.2   | 9.2   | 8.0    |
| 03:15 - 03:30                                           | 20.7 | 32.2  | 16.0 | 29.4 | 23.3 | 20.7 | 15.4 | 17.3  | 9.4   | 8.2   | 9.2   | 8.0    |
| 03:30 - 03:45                                           | 21.4 | 36.3  | 15.9 | 26.7 | 23.6 | 21.3 | 16.8 | 18.2  | 9.5   | 8.2   | 9.2   | 8.0    |
| 03:45 - 04:00                                           | 20.7 | 34.1  | 15.4 | 25.4 | 22.5 | 20.0 | 14.9 | 17.8  | 9.6   | 8.2   | 9.2   | 8.0    |
| 04:00 - 04:15                                           | 21.7 | 34.1  | 16.8 | 28.0 | 23.7 | 22.3 | 17.1 | 18.5  | 9.9   | 8.2   | 9.2   | 8.0    |
| 04:15 - 04:30                                           | 22.5 | 35.1  | 17.1 | 28.8 | 25.7 | 23.4 | 17.5 | 19.5  | 10.6  | 8.1   | 9.1   | 8.0    |
| 04:30 - 04:45                                           | 23.9 | 34.4  | 19.0 | 34.7 | 27.0 | 24.2 | 18.6 | 21.1  | 11.9  | 8.4   | 9.2   | 8.0    |
| 04:45 - 05:00                                           | 25.1 | 38.0  | 19.5 | 29.2 | 28.2 | 26.2 | 19.5 | 22.5  | 13.0  | 8.4   | 9.2   | 8.0    |
| 05:00 - 05:15                                           | 28.0 | 39.7  | 24.9 | 37.2 | 33.6 | 30.4 | 24.1 | 24.1  | 14.4  | 9.2   | 9.2   | 8.0    |
| 05:15 - 05:30                                           | 29.3 | 38.2  | 26.4 | 35.9 | 33.9 | 32.0 | 24.1 | 26.1  | 15.6  | 9.2   | 9.3   | 8.0    |
| 05:30 - 05:45                                           | 31.1 | 38.8  | 29.1 | 37.3 | 35.7 | 35.1 | 26.1 | 26.7  | 16.3  | 9.4   | 9.3   | 8.0    |
| 05:45 - 06:00                                           | 30.6 | 38.0  | 28.5 | 37.0 | 35.1 | 34.1 | 25.8 | 26.7  | 16.3  | 9.1   | 9.1   | 8.0    |
| 06:00 - 06:15                                           | 30.1 | 40.3  | 26.7 | 35.8 | 33.7 | 30.6 | 24.6 | 27.9  | 17.5  | 8.8   | 9.1   | 8.0    |
| 06:15 - 06:30                                           | 31.5 | 38.3  | 28.1 | 35.7 | 32.9 | 30.7 | 26.0 | 29.7  | 19.3  | 9.1   | 9.1   | 8.0    |
| 06:30 - 06:45                                           | 32.2 | 38.4  | 29.6 | 36.8 | 33.5 | 31.3 | 26.8 | 30.4  | 20.1  | 9.2   | 9.2   | 8.0    |
| 06:45 - 07:00                                           | 33.0 | 40.6  | 30.6 | 37.5 | 34.5 | 32.8 | 27.9 | 31.1  | 20.6  | 9.8   | 9.1   | 8.0    |

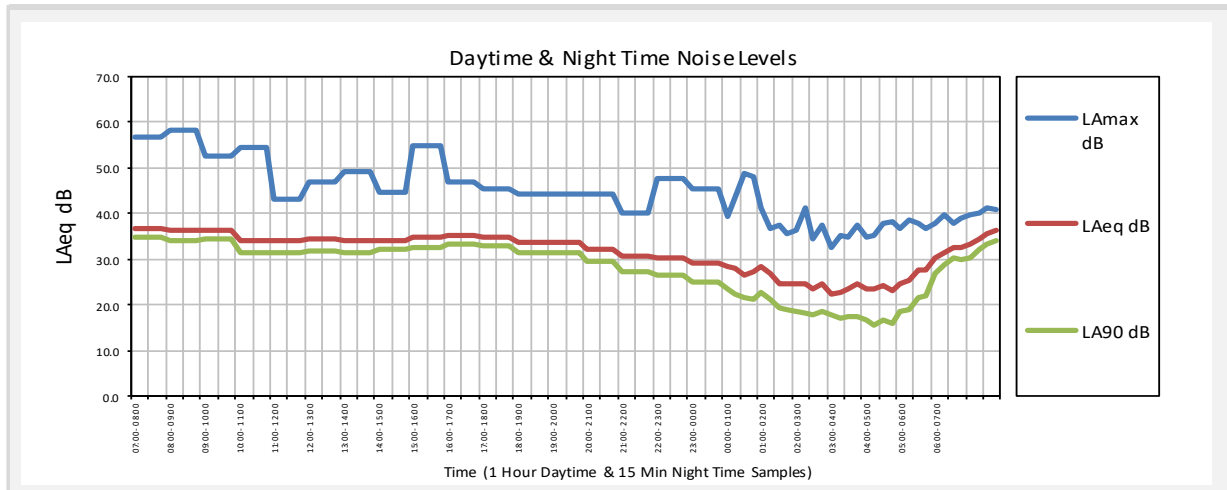


#### 4.2 Plot 46 – Bedroom 4<sup>th</sup> – 5<sup>th</sup> October 2022

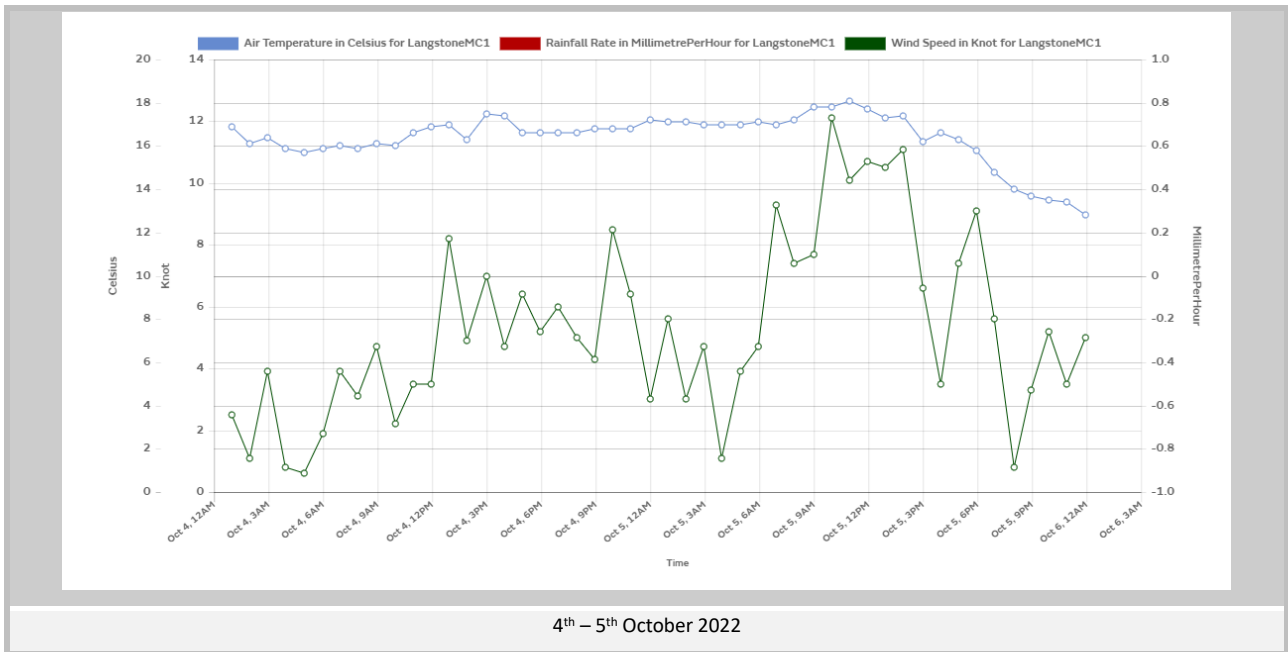
| NOISE LEVEL SUMMARY ASSESSMENT                                                            |      |       |      | Octave Band Centre Frequency (Hz) |      |      |      |      |      |      |      |       |
|-------------------------------------------------------------------------------------------|------|-------|------|-----------------------------------|------|------|------|------|------|------|------|-------|
| Date / Time                                                                               | LAeq | LAmaz | LA90 | 63                                | 125  | 250  | 500  | 1.0k | 2.0k | 4.0k | 8.0k | 16.0k |
| DAYTIME 07:00 - 23:00<br><small>LAeq 16 HOUR &amp; Cor r esponding LAmaz 16 HOUR</small>  | 34.3 | 58.2  | 32.0 | 37.6                              | 34.6 | 31.7 | 29.4 | 32.7 | 20.6 | 11.4 | 7.6  | 6.2   |
| NIGHT TIME 23:00 - 07:00<br><small>LAeq 8 HOUR &amp; Cor r esponding LAmaz 8 HOUR</small> | 29.3 | 48.8  | 19.0 | 32.6                              | 30.0 | 27.2 | 24.9 | 27.5 | 15.6 | 9.7  | 7.6  | 6.2   |

| DAYTIME NOISE LEVELS 07:00 - 23:00 1 HOUR SAMPLES |      |       |      |      |      |      |      |       |       |       |       |        |
|---------------------------------------------------|------|-------|------|------|------|------|------|-------|-------|-------|-------|--------|
| Date / Time                                       | LAeq | LAmaz | LA90 | 63   | 125  | 250  | 500  | 1.0 k | 2.0 k | 4.0 k | 8.0 k | 16.0 k |
| 07:00 - 08:00                                     | 36.7 | 30.9  | 35.0 | 35.0 | 34.3 | 33.2 | 316  | 35.4  | 23.4  | 13.0  | 7.7   | 6.2    |
| 08:00 - 09:00                                     | 36.3 | 58.2  | 34.2 | 40.7 | 36.2 | 34.3 | 314  | 34.7  | 22.8  | 12.7  | 7.7   | 6.2    |
| 09:00 - 10:00                                     | 36.2 | 52.5  | 34.3 | 41.7 | 37.8 | 36.5 | 311  | 34.3  | 22.3  | 14.3  | 7.9   | 6.2    |
| 10:00 - 11:00                                     | 34.2 | 54.4  | 316  | 34.5 | 33.5 | 317  | 30.5 | 32.5  | 19.9  | 11.8  | 7.7   | 6.2    |
| 11:00 - 12:00                                     | 34.0 | 43.1  | 316  | 37.6 | 33.8 | 30.8 | 29.6 | 32.4  | 19.9  | 11.0  | 7.8   | 6.2    |
| 12:00 - 13:00                                     | 34.4 | 47.0  | 32.0 | 39.6 | 36.6 | 315  | 30.0 | 32.6  | 20.7  | 11.7  | 7.7   | 6.2    |
| 13:00 - 14:00                                     | 33.9 | 49.2  | 315  | 35.5 | 32.7 | 310  | 29.4 | 32.4  | 20.3  | 11.4  | 7.6   | 6.2    |
| 14:00 - 15:00                                     | 34.3 | 44.8  | 32.1 | 39.8 | 35.7 | 317  | 29.6 | 32.6  | 20.4  | 10.9  | 7.6   | 6.2    |
| 15:00 - 16:00                                     | 34.9 | 54.8  | 32.4 | 38.8 | 35.6 | 32.7 | 30.7 | 33.2  | 21.1  | 11.4  | 7.6   | 6.2    |
| 16:00 - 17:00                                     | 35.3 | 46.8  | 33.3 | 35.5 | 33.7 | 32.0 | 30.1 | 33.9  | 22.1  | 10.6  | 7.5   | 6.2    |
| 17:00 - 18:00                                     | 34.9 | 45.3  | 32.9 | 33.2 | 32.8 | 310  | 29.4 | 33.6  | 21.4  | 10.6  | 7.6   | 6.2    |
| 18:00 - 19:00                                     | 33.8 | 44.3  | 316  | 32.7 | 31.7 | 29.7 | 28.4 | 32.5  | 20.4  | 11.8  | 7.7   | 6.2    |
| 19:00 - 20:00                                     | 32.3 | 44.3  | 29.6 | 36.2 | 33.7 | 28.1 | 27.0 | 30.9  | 18.7  | 10.7  | 7.6   | 6.2    |
| 20:00 - 21:00                                     | 30.5 | 40.2  | 27.1 | 36.1 | 33.6 | 27.2 | 25.0 | 29.0  | 16.9  | 8.4   | 7.5   | 6.1    |
| 21:00 - 22:00                                     | 30.2 | 47.6  | 26.4 | 36.1 | 33.4 | 26.6 | 24.9 | 28.6  | 16.6  | 8.5   | 7.5   | 6.2    |
| 22:00 - 23:00                                     | 29.2 | 45.5  | 25.2 | 36.1 | 33.3 | 26.0 | 23.7 | 27.5  | 15.6  | 8.3   | 7.5   | 6.2    |

| NIGHT TIME NOISE LEVELS 23:00 - 07:00 15 MINUTE SAMPLES |      |       |      |      |      |      |      |       |       |       |       |        |
|---------------------------------------------------------|------|-------|------|------|------|------|------|-------|-------|-------|-------|--------|
| Date / Time                                             | LAeq | LAmaz | LA90 | 63   | 125  | 250  | 500  | 1.0 k | 2.0 k | 4.0 k | 8.0 k | 16.0 k |
| 23:00 - 23:15                                           | 28.5 | 39.4  | 23.7 | 36.2 | 33.4 | 25.6 | 23.7 | 26.6  | 14.6  | 8.0   | 7.5   | 6.2    |
| 23:15 - 23:30                                           | 28.0 | 43.4  | 22.6 | 36.2 | 33.3 | 27.2 | 23.9 | 25.4  | 13.6  | 7.9   | 7.5   | 6.2    |
| 23:30 - 23:45                                           | 26.6 | 48.8  | 21.7 | 36.0 | 33.2 | 26.9 | 22.9 | 23.8  | 12.6  | 7.9   | 7.5   | 6.2    |
| 23:45 - 00:00                                           | 27.2 | 48.0  | 21.1 | 35.5 | 32.4 | 25.3 | 25.1 | 24.0  | 12.7  | 7.8   | 7.5   | 6.1    |
| 00:00 - 00:15                                           | 28.3 | 41.2  | 22.9 | 35.1 | 32.9 | 26.5 | 23.8 | 26.2  | 14.4  | 7.9   | 7.5   | 6.2    |
| 00:15 - 00:30                                           | 26.8 | 36.8  | 21.3 | 34.3 | 30.6 | 24.3 | 21.7 | 24.9  | 13.3  | 7.9   | 7.5   | 6.2    |
| 00:30 - 00:45                                           | 24.5 | 37.4  | 19.2 | 33.5 | 28.7 | 21.6 | 19.3 | 22.4  | 11.8  | 7.9   | 7.6   | 6.2    |
| 00:45 - 01:00                                           | 24.5 | 35.6  | 18.9 | 33.2 | 27.9 | 21.3 | 19.0 | 22.5  | 11.6  | 7.7   | 7.5   | 6.2    |
| 01:00 - 01:15                                           | 24.5 | 36.3  | 18.5 | 33.1 | 27.9 | 22.5 | 20.2 | 22.1  | 10.7  | 7.5   | 7.5   | 6.2    |
| 01:15 - 01:30                                           | 24.7 | 41.2  | 18.2 | 33.2 | 27.5 | 22.1 | 21.0 | 22.3  | 10.9  | 7.6   | 7.5   | 6.2    |
| 01:30 - 01:45                                           | 23.5 | 34.6  | 17.7 | 32.8 | 27.2 | 21.6 | 18.5 | 21.1  | 10.6  | 7.7   | 7.5   | 6.1    |
| 01:45 - 02:00                                           | 24.6 | 37.4  | 18.5 | 33.0 | 27.1 | 22.7 | 20.8 | 22.1  | 11.3  | 8.3   | 7.5   | 6.2    |
| 02:00 - 02:15                                           | 22.5 | 32.7  | 17.8 | 32.6 | 26.5 | 21.2 | 17.8 | 19.7  | 10.0  | 7.9   | 7.5   | 6.2    |
| 02:15 - 02:30                                           | 22.6 | 35.1  | 17.3 | 32.7 | 26.4 | 20.9 | 17.6 | 20.0  | 10.0  | 7.8   | 7.5   | 6.2    |
| 02:30 - 02:45                                           | 23.4 | 35.0  | 17.5 | 32.6 | 26.6 | 22.0 | 18.6 | 20.8  | 10.7  | 8.0   | 7.5   | 6.1    |
| 02:45 - 03:00                                           | 24.6 | 37.5  | 17.5 | 27.2 | 23.3 | 22.3 | 20.3 | 22.5  | 11.8  | 8.3   | 7.6   | 6.2    |
| 03:00 - 03:15                                           | 23.7 | 34.9  | 16.8 | 24.2 | 21.8 | 20.1 | 19.2 | 21.8  | 11.0  | 7.7   | 7.5   | 6.1    |
| 03:15 - 03:30                                           | 23.4 | 35.4  | 15.6 | 24.8 | 21.5 | 20.0 | 19.8 | 21.3  | 10.4  | 7.5   | 7.5   | 6.1    |
| 03:30 - 03:45                                           | 24.2 | 37.8  | 16.8 | 24.0 | 22.2 | 20.9 | 20.8 | 22.1  | 10.8  | 7.7   | 7.5   | 6.1    |
| 03:45 - 04:00                                           | 23.0 | 38.3  | 15.9 | 22.8 | 21.1 | 20.2 | 18.6 | 21.0  | 10.4  | 7.8   | 7.5   | 6.2    |
| 04:00 - 04:15                                           | 24.6 | 36.7  | 18.8 | 26.5 | 23.1 | 21.5 | 21.0 | 22.6  | 11.5  | 7.7   | 7.5   | 6.1    |
| 04:15 - 04:30                                           | 25.4 | 38.6  | 18.8 | 28.0 | 27.8 | 22.6 | 21.1 | 23.4  | 12.0  | 7.6   | 7.5   | 6.2    |
| 04:30 - 04:45                                           | 27.5 | 38.0  | 21.5 | 29.2 | 24.9 | 24.7 | 23.7 | 25.6  | 14.1  | 8.4   | 7.5   | 6.1    |
| 04:45 - 05:00                                           | 27.7 | 36.8  | 21.9 | 26.8 | 25.9 | 24.9 | 22.7 | 26.1  | 14.5  | 8.5   | 7.5   | 6.2    |
| 05:00 - 05:15                                           | 30.3 | 37.9  | 27.1 | 30.7 | 32.2 | 29.9 | 26.9 | 27.8  | 16.2  | 9.1   | 7.6   | 6.2    |
| 05:15 - 05:30                                           | 31.6 | 39.7  | 28.7 | 31.7 | 31.3 | 31.2 | 27.9 | 29.5  | 17.2  | 9.2   | 7.5   | 6.2    |
| 05:30 - 05:45                                           | 32.5 | 37.8  | 30.2 | 34.7 | 34.5 | 33.9 | 28.5 | 29.8  | 17.7  | 9.3   | 7.5   | 6.2    |
| 05:45 - 06:00                                           | 32.7 | 39.0  | 30.0 | 34.5 | 33.9 | 33.0 | 28.6 | 30.3  | 18.1  | 9.3   | 7.5   | 6.2    |
| 06:00 - 06:15                                           | 33.2 | 39.7  | 30.5 | 31.6 | 30.9 | 29.7 | 28.7 | 31.6  | 19.5  | 9.8   | 7.5   | 6.2    |
| 06:15 - 06:30                                           | 34.3 | 40.3  | 32.2 | 31.5 | 30.8 | 30.0 | 29.3 | 33.0  | 20.9  | 11.1  | 7.9   | 6.2    |
| 06:30 - 06:45                                           | 35.4 | 41.4  | 33.3 | 32.3 | 31.2 | 30.6 | 30.3 | 34.1  | 22.0  | 17.5  | 8.9   | 6.2    |
| 06:45 - 07:00                                           | 36.2 | 41.0  | 34.2 | 33.0 | 31.9 | 31.9 | 31.3 | 34.9  | 22.6  | 15.6  | 8.1   | 6.2    |



## 5 APPENDIX B – WEATHER



# END OF REPORT #