SPIRE ENVIRONMENTAL
NOISE, VIBRATION AND AIR QUALITY CONSULTANTS

Appeal by Mr E.J. Lidster

West Green Recycling, West Green Way, Barnsley, S71 5SN

Inspectorate Ref: APP/R4408/W/25/3369666

R25.1957-2-AG

Noise Impact Assessment

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-	21/10/2025	Issue	Andy Green BSc(Hons), MSc, MIOA
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Notice

EXECUTIVE SUMMARY

Spire Environmental Consultants Limited have been appointed by Hera Planning on behalf of Mr E.J. Lidster to undertake an environmental noise assessment for an appeal for the operation of an aggregate washing plant at West Green Recycling, West Green Way, Barnsley, S71 5SN.

It has been acknowledged that the noise levels of this plant are acceptable at the closest existing residential receptors, however the Local Authority has identified proposed new housing areas to the north west and south west of the site. The noise impact of this plant and the other existing permitted operations at the site has been assessed in this report.

The permitted operations at the site include the operational of a mobile crusher, mobile screen, mobile plant, and HGV movements.

The operation of an aggregate wash plant is the subject of this appeal. This includes the sand plant, wash plant and loading of the plant using a wheeled loader.

This assessment has considered the noise impact of the permitted and operation of an aggregate wash plant on the proposed new housing areas.

Background sound level surveys have been undertaken at the proposed new housing areas to the north west and south west of the site. The background sound levels used in the BS 4142:2014 + A1 2019 have been taken outside of the site operating hours. The permitted plant for the fallback position is not included in the background levels. This therefore gives a worst-case scenario as it does not include any of the existing site activity. The noise levels of the existing permitted and aggregate recycling plant have been predicted to the proposed new housing areas and assessed against BS 4142:2014 + A1 2019.

The rating level of the permitted operations only is below the adverse impact level at the north west receptors and at the low impact level at the south western receptors when assessed in accordance with the BS 4142:2014 + A1 2019 standard.

The rating level of the aggregate wash plant operations only is at the low impact level at the north western and south western receptors when assessed in accordance with the BS 4142:2014 + A1 2019 standard.

The rating level of the combined permitted and aggregate wash plant operations is below the adverse impact level at the north west receptors and at the low impact level at the south western receptors when assessed in accordance with the BS 4142:2014 + A1 2019 standard.

This report has been agreed with the EHO, but noting that 2 remaining issues raised by the EHO are noted in this report relating to the difference in noise levels compared to my 4 October 2023 noise impact assessment and whether a character correction should be applied (paragraphs 4.9 and 4.21), which may require discussion at the appeal hearing

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1. INTRODUCTION

Appointment & Background

1.1 Spire Environmental Consultants Limited have been appointed by Hera Planning on behalf of Mr E.J. Lidster to undertake an environmental noise assessment for an appeal to operate an aggregate washing plant at West Green Recycling, West Green Way, Barnsley, S71 5SN.

1.2 This report has been prepared in light of the Council's Environmental Health Officer's (EHO) comments (Appendix 4, Council's Appeal Statement) recommending that another noise impact assessment is carried out in more favourable weather conditions and providing additional noise monitoring data for the future allocated housing under policy MU3.

1.3 Drafts of this report have been shared with the EHO and updated to account for comments received. This report has been agreed with the EHO, but noting that remaining issues raised by the EHO are noted in this report (paragraphs 4.9 and 4.21), which may require discussion at the appeal hearing.

1.4 Monitoring of the existing background sound levels was conducted for a continuous period between 10 and 17 October 2025 at locations representative of the proposed Phase 2 (north western) and Phase 5 (south western) residential development areas identified in the Local Plan. The noise measurements were taken with type 1 tripod mounted sound level meters at a height of 1.5m above the ground.

1.5 This report is necessarily technical in nature, so to assist the reader, a glossary of acoustic terminology can be found in **Appendix A**.

Site Setting

1.6 The proposed Phase 2 and Phase 5 residential development areas and background sound level monitoring locations are shown in **Figure 1** (below).

Figure 1: Background noise monitoring locations

2. BS 4142:2014 + A1:2019 Methods for Rating and Assessing Industrial and Commercial Sound

2.1 BS 4142 provides methodology for rating and assessing sound associated with both industrial and commercial premises. The purpose of the standard is outlined in the opening section where it states that the method is appropriate for the consideration of:

- Sound from industrial and manufacturing processes;
- Sound from fixed installations which comprise mechanical and electrical plant and equipment;
- Sound from the loading and unloading of goods and materials at industrial and/or commercial premises; and
- Sound from mobile plant and vehicles that is an intrinsic part of the overall sound emanating from premises or processes, such as that from forklift trucks, or that from train movements on or around an industrial and/or commercial site.

2.2 The standard is based around the premise that the significance of the noise impact of an industrial/commercial facility can be derived from the numerical subtraction of the background sound level (not necessarily the lowest background level measured, but the typical background of the receptor) from the measured/calculated rating level of the specific sound level under consideration. This comparison will enable the impact of the specific sound level to be concluded based upon the premise that typically "the greater this difference, the greater the magnitude of the impact." The difference is then considered as follows:

- A difference of around +10 dB or more is likely to be an indication of a **significant adverse impact**, depending on the context.
- A difference of around +5dB is likely to be an indication of an **adverse impact**, depending on the context.
- The lower the rating level is relative to the measured background sound level, the less likely it is that the specific sound source will have an adverse impact or a significant adverse impact. Where the rating level does not exceed the background sound level, this is an indication of the specific sound source having a **low impact**, depending on the context.

2.3 BS 4142 further states that "where the rating level does not exceed the background sound level, this is an indication of the specific sound source having a low impact", depending on the context.

2.4 The standard further qualifies the assessment protocol by outlining conditions to the comparative assessment and stating that "not all adverse impacts will lead to complaints and not every compliant is proof of an adverse impact". This therefore implies that all sites should be assessed on their own merits and specifics.

2.5 The standard quantifies the typical reference periods to be used in the assessment of noise, namely:

- Typical daytime 07:00 – 23:00 1-hr assessment period
- Typical night-time 23:00 – 07:00 15-min assessment period

2.6 The standard also outlines methods for defining appropriate "character corrections" Within the rating levels to account for tonal and impulsive qualities along with other sound characteristics and/or intermittency. These are:

a. The Subjective Method

b. The Objective Method

c. The Reference Method

2.7 It is noted in the standard that were multiple features are present, the corrections should be added in a linear fashion to the specific level.

Level of perceptibility	Tonal correction dB	Impulsivity correction dB	Correction for other sound characteristics dB	Intermittency correction dB
No perceptibility	+0	+0	Where neither tonal nor impulsive but clearly identifiable +3	If intermittency is readily identifiable +3
Just perceptible	+2	+3		
Clearly perceptible	+4	+6		
Highly perceptible	+6	+9		

Table 1: BS 4142 character corrections

3. ENVIRONMENTAL NOISE SURVEY

Environmental Noise Survey Methodology

3.1 The existing background sound levels were measured at the north western and south western proposed residential development areas.

3.2 The noise monitoring was conducted using type 1 tripod mounted sound level meters at a height of 1.5m from the ground, in free-field locations.

Measurement Equipment

3.3 The noise surveys were undertaken using Class 1 sound level meters. Calibration checks were undertaken prior to and upon completion of the surveys. No significant calibration drift was found to have occurred. All laboratory calibration (biennial for the sound level meters and annual for the calibrator) was up-to-date at the time. The equipment used for the survey is summarised in **Table 2** below.

Table 2: Noise monitoring equipment

Equipment	Manufacturer	Serial Number	Calibration due Date
Sound Level Meters	Cirrus	G056773	21 April 2026
		G301768	11 November 2025
Acoustic Calibrator		55186	11 November 2025

Meteorological Conditions

3.4 Weather conditions obtained from a weather station installed at the site during the survey period are shown in **Table 3** (below).

Date	Temperature (°C)		Wind Speed (m/s)		Wind Direction	Precipitation
	Maximum	Minimum	Maximum	Minimum		
10 October	15.6	11.4	2.9	0.3	SW	None
11 October	19.3	5.7	2.6	0	Variable	None
12 October	20.9	2.0	1.0	0	Variable	None
13 October	15.6	10.5	0.7	0	SW	None
14 October	13.0	10.4	2.6	0	Variable	None
15 October	13.0	9.9	0.8	0	NE	None
16 October	13.5	9.9	1.3	0	Variable	None
17 October	10.0	9.2	0	0	SW	None

Table 3 – Weather conditions during the survey periods

3.5 During the survey periods, the temperature was between 10.0 and 20.9 °C. The wind speed was between 0 and 2.9 m/s. The wind direction was from the south west, north east and variable directions. It was dry during the survey period.

North western proposed housing area measured daytime levels

3.6 A Summary of the measured noise levels, recorded during the daytime period at the north western proposed housing area are shown in in **Table 4** (below). The full results are shown in **Appendix B.**

Survey Period	dB $L_{Aeq,1h\ (16h)}$	dB $L_{A90,1h\ (16h)}$	*dB $L_{Amax,f,1h\ (16h)}$
# Friday 10 October 2025	45.3 – 55.1 (51.2)	41.4 – 52.2 (47.1)	56.7 – 78.1 (78.1)
Saturday 11 October 2025	47.7 – 53.0 (49.9)	43.4 – 47.1 (44.9)	60.0 – 84.7 (84.7)
Sunday 12 October 2025	44.5 – 53.5 (49.9)	39.7 – 46.1 (44.3)	56.6 – 81.9 (81.9)
Monday 13 October 2025	44.4 – 54.6 (52.6)	39.0 – 52.9 (48.3)	60.2 – 74.8 (74.8)
Tuesday 14 October 2025	45.1 – 54.9 (52.6)	40.0 – 53.2 (48.7)	60.1 – 72.2 (72.2)
Wednesday 15 October 2025	46.0 – 55.4 (52.6)	40.4 – 52.8 (48.7)	59.9 – 75.9 (75.9)
Thursday 16 October 2025	45.4 – 54.3 (52.1)	38.9 – 52.2 (48.1)	61.9 – 78.0 (78.0)

*Maximum obtained over survey period
Over 11-hour period

Table 4 North western proposed housing area daytime noise monitoring summary

3.7 During the daytime period (07:00 – 23:00 hours), the measured ambient noise level was between 44.4 and 55.4 $L_{Aeq,1h}$. The corresponding background noise level during this period was between 38.9 and 53.2 $L_{A90,1h}$. During the daytime (16-hour period), the ambient noise level was between 49.9 and 52.6 $L_{Aeq,16h}$. The corresponding background noise level was between 44.3 and 48.7 $L_{A90,16h}$. The noise climate was influenced by road traffic noise from West Green Way, train movements, and mobile and static plant operations at the E.J. Lidster Recycling site.

North western proposed housing area measured night-time levels

3.8 A Summary of the measured noise levels, recorded during the night-time periods are shown in **Table 5** (below). The full results are shown in **Appendix B.**

Survey Period	dB $L_{Aeq,1h\ (8h)}$	dB $L_{A90,1h\ (8h)}$	*dB$L_{Amax,f,1h(8h)}$
Friday 10 – Saturday 11 October 2025	42.3 – 49.3 (45.1)	39.0 – 44.3 (40.4)	56.2 – 67.4 (67.4)
Saturday 11 – Sunday 12 October 2025	44.0 – 48.7 (46.0)	39.1 – 43.1 (40.8)	56.2 – 73.2 (73.2)
Sunday 12 – Monday 13 October 2025	41.6 – 49.0 (44.7)	37.4 – 44.0 (39.2)	54.7 – 69.7 (69.7)
Monday 13 – Tuesday 14 October 2025	41.6 – 47.5 (43.9)	36.8 – 43.7 (39.0)	54.6 – 66.7 (66.7)
Tuesday 14 – Wednesday 15 October 2025	42.1 – 48.5 (44.8)	36.4 – 44.8 (38.8)	54.9 – 65.8 (65.8)
Wednesday 15 – Thursday 16 October 2025	42.7 – 48.8 (45.5)	37.1 – 44.6 (39.4)	55.7 – 67.5 (67.5)
Thursday 16 – Friday 17 October 2025	42.0 – 48.4 (45.0)	36.3 – 43.8 (38.5)	57.3 – 70.4 (70.4)

*Maximum obtained over survey period

Table 5 North western proposed housing area night-time noise monitoring summary

3.9 During the night-time period (23:00 – 07:00 hours), the measured ambient noise level was between 41.6 and 49.3 $L_{Aeq,1h}$. The corresponding background noise level during this period was between 36.3 and 44.8 $L_{A90,1h}$. During the night-time (8-hour period), the ambient noise level was between 43.9 and 46.0 $L_{Aeq,8h}$. The corresponding background noise level was between 38.5 and 40.8 $L_{A90,8h}$. The noise climate was influenced by road traffic noise from West Green Way.

South western proposed housing area measured daytime levels

3.10 A summary of the measured noise levels, recorded during the daytime period on the south western proposed housing area are shown in in **Table 6** (below). The full results are shown in **Appendix B.**

Survey Period	dB $L_{Aeq,1h\ (16h)}$	dB $L_{A90,1h\ (16h)}$	*dB $L_{Amax,f,1h\ (16h)}$
# Friday 10 October 2025	53.3 – 57.2 (55.8)	51.7 – 55.1 (53.4)	64.8 – 79.1 (79.1)
Saturday 11 October 2025	53.2 – 58.5 (55.5)	51.8 – 55.0 (53.1)	63.4 – 83.8 (83.8)
Sunday 12 October 2025	52.7 – 56.2 (54.3)	51.6 – 53.7 (52.4)	60.8 – 90.4 (90.4)
Monday 13 October 2025	52.5 – 57.4 (55.6)	51.5 – 54.9 (53.3)	61.8 – 83.7 (83.7)
Tuesday 14 October 2025	53.3 – 57.2 (55.6)	52.1 – 54.8 (53.4)	64.5 – 79.8 (79.8)
Wednesday 15 October 2025	52.7 – 57.1 (55.7)	51.8 – 54.6 (53.5)	62.2 – 80.7 (80.7)
Thursday 16 October 2025	52.0 – 57.4 (55.7)	50.9 – 54.7 (53.3)	59.3 – 80.6 (80.6)

*Maximum obtained over survey period
Over 11-hour period

Table 6 South western proposed housing area daytime noise monitoring summary

3.11 During the daytime period (07:00 – 23:00 hours), the measured ambient noise level was between 52.0 and 58.5 $L_{Aeq,1h}$. The corresponding background noise level during this period was between 50.9 and 55.1 $L_{A90,1h}$. During the daytime (16-hour period), the ambient noise level was between 54.3 and 55.8 $L_{Aeq,16h}$. The corresponding background noise level was between 52.4 and 53.5 $L_{A90,16h}$. The noise climate was influenced by road traffic noise from West Green Way, mobile and static plant at the E.J. Lidster recycling site and dogs barking

South western proposed housing area measured night-time levels

3.12 A Summary of the measured noise levels, recorded during the night-time periods are shown in **Table 7** (below). The full results are shown in **Appendix B.**

Survey Period	dB $L_{Aeq,1h\ (8h)}$	dB $L_{A90,1h(8h)}$	*dB$L_{Amax,f,1h(8h)}$
Friday 10 – Saturday 11 October 2025	52.8 – 56.2 (54.2)	51.6 – 53.6 (52.2)	60.5 – 76.6 (76.6)
Saturday 11 – Sunday 12 October 2025	52.8 – 54.3 (53.5)	51.7 – 52.9 (52.3)	59.5 – 74.4 (74.4)
Sunday 12 – Monday 13 October 2025	52.0 – 55.7 (53.0)	51.1 – 53.0 (51.5)	57.9 – 81.3 (81.3)
Monday 13 – Tuesday 14 October 2025	51.7 – 55.0 (53.2)	50.7 – 53.1 (51.6)	58.3 – 73.4 (73.4)
Tuesday 14 – Wednesday 15 October 2025	51.9 – 55.5 (53.1)	50.9 – 53.1 (51.6)	57.3 – 77.8 (77.8)
Wednesday 15 – Thursday 16 October 2025	51.9 – 55.8 (53.2)	50.9 – 53.2 (51.6)	57.8 – 88.7 (88.7)
Thursday 16 – Friday 17 October 2025	51.8 – 54.8 (52.8)	50.9 – 52.8 (51.4)	57.7 – 78.9 (78.9)

*Maximum obtained over survey period

Table 7 South western proposed housing area night-time noise monitoring summary

3.13 During the night-time period (23:00 – 07:00 hours), the measured ambient noise level was between 51.8 and 56.2 $L_{Aeq,1h}$. The corresponding background noise level during this period was between 50.7 and 53.6 $L_{A90,1h}$. During the night-time (8-hour period), the ambient noise level was between 52.8 and 54.2 $L_{Aeq,8h}$. The corresponding background noise level was between 51.4 and 52.3 $L_{A90,8h}$. The noise climate was influenced by road traffic noise from West Green Way and dogs barking.

4. NOISE ASSESSMENT

Introduction

4.1 Aggregate recycling operations are conducted at the West Green Way site. They are permitted to operate a mobile crusher, trommel screen, and associated mobile plant and unlimited HGV movements. This plant is shown in **Appendix D**.

4.2 An aggregate wash plant is also operating on the site. This does not have planning permission. The Local Authority has designated the site and areas to the north west and south west of the site as suitable for the development of residential properties. This continued operation of this plant is the subject of an appeal by E.J. Lidster. This plant consists of a sand plant, aggregate wash plant and the loading of the plant hopper using a wheeled loader. This plant is shown in **Appendix D**.

Permitted Operations

4.3 The permitted operations at the site include a Kleeman crusher (loaded by an excavator), MDS M412 mobile trommel (loaded by an excavator) and HGV movements.

Pictures 1 – 3 (left to right) Kleeman mobile crusher/MDS M412 mobile trommel/HGV

4.4 Noise measurements of the permitted plant were undertaken on Friday 10 October 2025 using a class 1 sound level meter, mounted on a tripod at a height of 1.5m from the ground. These noise measurements are shown in **Table 8** (below).

Plant type	Measured noise level dB(A) @ 10m
Kleeman impact crusher loaded by excavator	82.5
MDS M412 mobile trommel loaded by excavator	81.7
HGV moving at 10 mph	69.1

Table 8 Measured noise levels of permitted operations

4.5 The material received and processed on the site is mainly from material excavated from utilities sites. This is typically a mixture of tarmac, sub base and sub strata. As only a limited amount of the material requires active crushing or screening, the crusher and trommel screens were operating well below their full capacities and as such the dominant noise source from crushing and screening operations of the site was from diesel engine noise. The measured plant noise levels were therefore significantly reduced.

Aggregate washing plant

4.6 The aggregate washing plant is the subject of the appeal. This consists of a sand plant, washing plant and the loading of a hopper using a wheeled loader.

Pictures 4 – 6 (left to right) Sand plant/Washing plant/Loading hopper

4.7 Noise measurements of the aggregate were undertaken on Friday 10 October 2025 using a class 1 sound level meter, mounted on a tripod at a height of 1.5m from the ground. These noise measurements are shown in **Table 9** (below).

Plant type	Measured noise level dB(A) @ 10m
Sand plant	73.8
Wash plant	70.3
Hopper loaded by excavator	79.1

Table 9 Measured noise levels of aggregate wash plant

4.8 The material fed into the hopper of the aggregate wash plant has previously been processed by the MDS M412 mobile trommel. This is fine grade soil like material. The trommel has been set up to the feed material directly into hopper. However, for the purpose of separating the permitted operation of the trommel from the activities of the aggregate washing plant, an excavator was used to load the material into the hopper which was previously processed by the trommel. As this material was fine material, the dominant noise source from this activity was the diesel engine of the excavator loading the hopper. At the sand and washing plants, the movement of water and operation of water pumps were audible.

Plant activity

4.9 A draft of this R25.1957-2-AG noise assessment report was e-mailed to Adam Cattell (Environmental Health Officer Barnsley Metropolitan Borough Council). He has made the following comments in an e-mail send on 23 October 2025.

Also could you explain why the noise from the installation plant are so different between the two monitoring exercises? I can see that some measurements were take at 10m rather than 5m, but I wouldn't expect there to be such a decrease in measured noise levels from the same activity. I can see that the material on site at the time was soil and so only the soil wash facilities were being used but stone and concrete are crushed on site regularly. As a worst case scenario, this activity should be included in the noise assessment with the use of the hydraulic pecker attachment.

4.10 My response is given below:

During the previous site visit on 4 October 2023 (Report number R24.1826-2-AG dated 6 December 2024), a hydraulic pecker was used to remove lumps of concrete from lighting pedestals. These were then fed into the crusher. This was a one-off specialist job. A hydraulic pecker was brought into site solely for this propose. These lumps of concrete were then fed into the plant during the noise survey undertaken at this time. As larger sizes of stones were fed into the plant, this increased the measured noise levels.

Furthermore, at the time of the 4 October 2023 assessment, most of the appeal wash plant was on-site, but it had not commenced operation. Therefore, the use of the pecker was associated to the permitted plant on-site that can be used as part of the fallback position (ie the previous plant that can be used on-site without the appeal plant which can be operated if the appeal plant is refused planning permission).

During the site visit on 10 October 2025 (Report number R25.1957-1-AG dated 21 October 2025) the material processed on site was excavated from utilities sites. This is not just soil. Typical road side excavations may include 150 mm tarmac, 150 mm sub base (small stones, concrete pieces, bricks) and sub strata (sand, limestone, clay, soil). This is the typical type of material which is received and processed on the site. As the particle sizes of the material were significantly less than measured in the previous 2023 survey, measured plant noise levels were significantly reduced.

The crusher, trommel and aggregate wash plant were all fed with aggregate and operated separately during the noise survey conducted on 10 October 2025.

As the hydraulic pecker is not typically used on the site and the crushing and screening of excavated material from utilities sites is the typical material processed on the site, the combined operation of all of this plant, as detailed in Report number R25.1957-1-AG is considered a representative assessment.

4.11 Given the issue raised by the EHO, this issue may require discussion at the appeal hearing.

Operating Hours

4.12 The operating hours of the site are as follows:

- Monday to Friday 07:00 – 18:00 hours
- Saturday 07:00 – 15:00 hours
- No operations on Sundays or Bank Holidays

Background Sound Levels

4.13 The recorded background sound levels will consider the following periods:

- Working hours only – 0700 – 1800 hours Monday to Friday and 0700 – 1500 hours Saturday
- Outside working hours – Monday to Friday 0600 – 0700, 1800 – 1900 hours, Saturday 0600 – 0700 hours and Sunday 0700 – 1800 hours.

4.14 The background sound levels recorded during the site working hours may be affected by site operations. Therefore, the background sound levels will also be obtained outside the working hours of the site. The weather conditions during the survey period were suitable for recording environmental sound levels, therefore all of the measured background sound levels recorded during the periods above have been included in the assessment.

North western proposed housing area (working hours only)

4.15 The background sound levels recorded during the working hours only are shown in **Figure 2** below. They were between 44 and 53 $L_{A90,1h}$. The most frequently recorded background sound level was 52 $L_{A90,1h}$ which was recorded 16 times. This is most representative of the noise climate at this location during the working hours of the site.

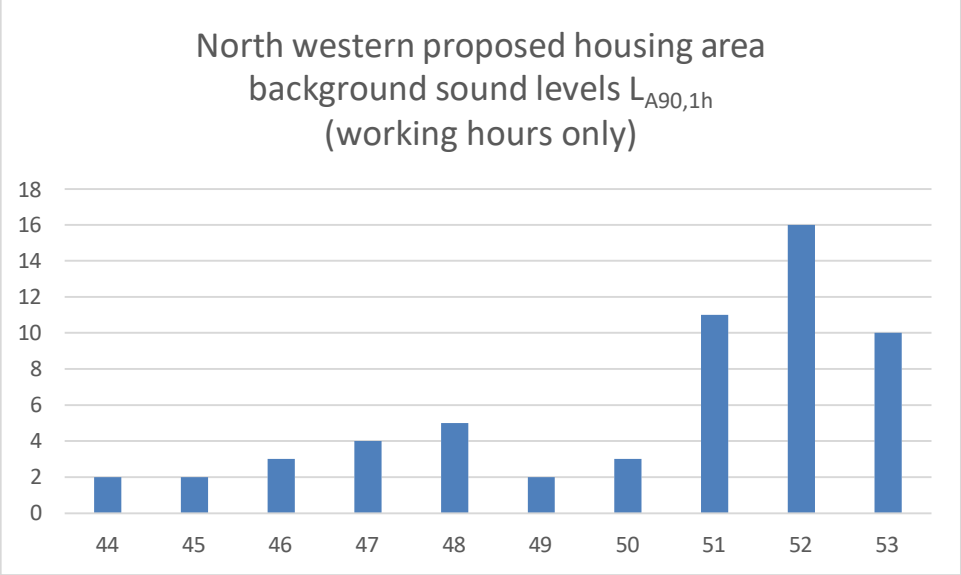

Figure 2 **North western proposed housing area background sound levels (working hours only)**

4.16 The background sound levels recorded outside working hours are shown in **Figure 3** below. They were between 44 and 47 $L_{A90,1h}$. The most frequently recorded background sound level was 45 $L_{A90,1h}$ which was recorded 9 times. This is most representative of the noise climate at this location outside the working hours of the site.

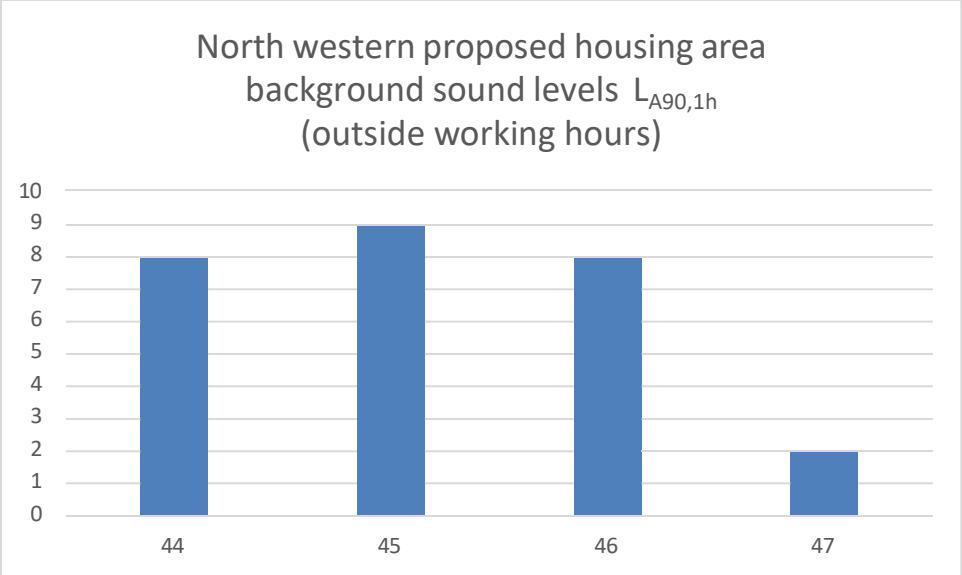

Figure 3 **North western proposed housing area background sound levels (outside working hours)**

South western proposed housing area (working hours only)

4.17 The background sound levels recorded during the working hours only are shown in **Figure 4** below. They were between 52 and 55 $L_{A90,1h}$. The most frequently recorded background sound level was 54 $L_{A90,1h}$ which was recorded 25 times. This is most representative of the noise climate at this location during the working hours of the site.

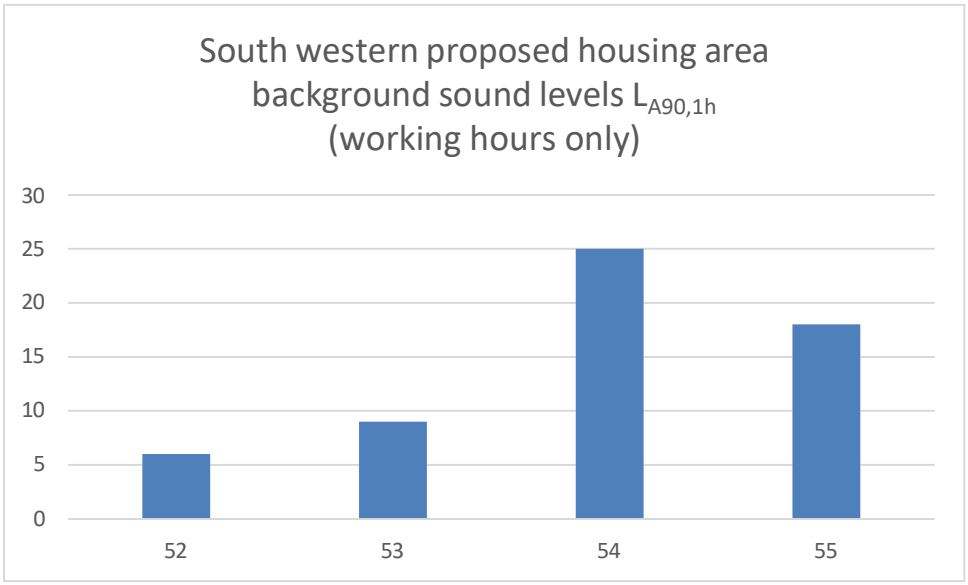

Figure 4 South western proposed housing area background sound levels (working hours only)

4.18 The background sound levels recorded outside working hours are shown in **Figure 5** below. They were between 52 and 55 $L_{A90,1h}$. The most frequently recorded background sound level was 53 $L_{A90,1h}$ which was recorded 23 times. This is most representative of the noise climate at this location outside the working hours of the site.

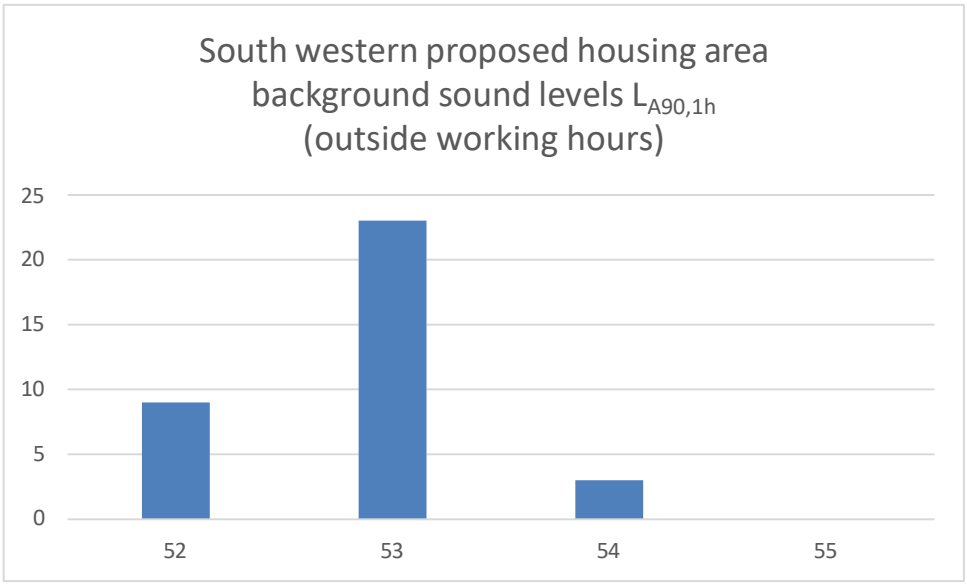

Figure 5 South western proposed housing area background sound levels (outside working hours)

BS 4142 Noise Assessment

4.19 The noise assessment has been conducted using Cadna A noise prediction software in accordance with ISO 9613-2:2024. The grid references of sensitive receptors and plant noise locations are shown in **Appendix C**.

4.20 In order to present a worst-case scenario, the background sound levels obtained outside the site operational periods will be used in the assessment. The noise predictions have taken into account the concrete block wall on the south western boundary.

4.21 In response to a draft of this report, the Council's EHO has made the following comments in an e-mail send on 23 October 2025:

I would expect at least a +3 Character correction for this type of installation, why has this not been included?

4.22 My response is as follows:

A character correction has not been applied. The crusher and trommel plants were processing small particle sizes of material. Therefore, the dominant noise sources from these activities was from diesel engine noise. The West Green Way trunk road is located approximately 100m from the south-western boundary. Short-term noise measurements were undertaken at approximately 10 and 20m from the south-western site boundary towards West Green Way, during the combined operation of the crusher, trommel and aggregate wash plant. Road traffic noise from West Green Way was identified as the dominant noise source at 20m. The proposed residential development to the north-west is located at a distance >200m from the crushing and screening area. It is also located next to a live railway line. The passing of trains will be intermittent and significantly noisier than site operations due to their close proximity. Therefore, it would not be appropriate to apply a character correction in either case.

4.23 Given the issue raised by the EHO, this issue may require discussion at the appeal hearing.

4.24 The BS 4142 assessment will consider the following scenarios:

- Permitted operations only
- Aggregate wash plant operations only
- Combined permitted and aggregate wash plant operations

Description	Proposed north western receptors	Proposed south western receptors
Specific noise level	49 $L_{Aeq,1h}$	51 $L_{Aeq,1h}$
Acoustic correction	0	0
Rating Level	49	51
Background sound level	45 $L_{A90,1h}$	53 $L_{A90,1h}$
Excess over background	+4	- 2
BS 4142 impact	**Below Adverse**	**Low impact**

Table 10 BS 4142 Assessment Permitted Operations Only

Description	Proposed north western receptors	Proposed south western receptors
Specific noise level	43 $L_{Aeq,1h}$	51 $L_{Aeq,1h}$
Acoustic correction	0	0
Rating Level	43	51
Background sound level	45 $L_{A90,1h}$	53 $L_{A90,1h}$
Excess over background	-2	- 2
BS 4142 impact	**Low impact**	**Low impact**

Table 11 BS 4142 Assessment Aggregate Wash Plant Operations Only

Description	Proposed north western receptors	Proposed south western receptors
Specific noise level	49 $L_{Aeq,1h}$	52 $L_{Aeq,1h}$
Acoustic correction	0	0
Rating Level	49	52
Background sound level	45 $L_{A90,1h}$	53 $L_{A90,1h}$
Excess over background	+ 4	- 1
BS 4142 impact	**Below Adverse**	**Low impact**

Table 12 BS 4142 Assessment Combined Permitted and Aggregate Wash Plant Operations

4.25 During permitted operations, at the proposed north west receptors, the excess over background is + 4, which is at the Below Adverse level. At the proposed south western receptors, the excess over background is 2 dB below the background sound level, which is at the low impact level when assessed in accordance with BS 4142:2014 + A1:2019. This is shown in **Table 10.**

4.26 During the operation of the aggregate wash plant operations only, at the proposed north west receptors and proposed south western receptors, the excess over background is 2 dB below the background sound level, which is at the low impact level when assessed in accordance with BS 4142:2014 + A1:2019. This is shown in **Table 11.**

4.27 During combined permitted and aggregate wash plant operations at the proposed north west receptors, the excess over background is + 4, which is at the Below Adverse level. At the proposed south western receptors, the excess over background is 1 dB below the background sound level, which is at the low impact level when assessed in accordance with BS 4142:2014 + A1:2019. This is shown in **Table 12.**

5. CONCLUSIONS

5.1 Spire Environmental Consultants Limited has been appointed by Hera Planning on behalf of Mr E.J. Lidster, to undertake an environmental noise assessment for the operation of an aggregate washing plant at West Green Recycling, West Green Way, Barnsley, S71 5SN.

5.2 Background sound level surveys were undertaken at locations representative of the proposed residential development areas to the north west and south west. The surveys, and subsequent assessment work, have been undertaken in accordance with current standards and guidance.

5.3 A detailed noise assessment has been undertaken to determine the noise impact of the existing permitted operations, aggregate wash plant only and combined operation of the permitted and aggregate wash plant.

5.4 BS 4142:2014 + A1 2019 assessments have been conducted on the three scenarios detailed above. At the proposed north western residential properties, the predicted noise level is 6 dB higher when comparing permitted only with aggregate wash plant only operations. This changes the BS 4142 assessment from below adverse during permitted to low impact during the operation of the wash plant only. At the south western receptors, the outcome of the BS 4142 assessment remains the same, at the low impact level.

5.5 The BS 4142:2014 + A1 2019 assessment during combined operation of the permitted and aggregate wash plant operation has shown there is no additional noise impact at the western receptors, a below adverse impact still applies. At the south western receptors, there is a marginal 1 dB increase. As the excess over background is -1, the low impact threshold still applies.

5.6 The background sound levels used in the BS 4142:2014 + A1 2019 assessment have been taken outside of the site operating hours. The permitted plant for the fallback position is not included in the background levels. This therefore gives a worst case scenario, as it does not include any of the existing site activity.

5.7 This report has been agreed with the EHO, but noting that 2 remaining issues raised by the EHO are noted in this report relating to the difference in noise levels compared to my 4 October 2023 noise impact assessment and whether a character correction should be applied (paragraphs 4.9 and 4.21), which may require discussion at the appeal hearing.

APPENDICES

APPENDIX A: Glossary of Terms

Noise

Noise is defined as unwanted sound. Human ears are able to respond to sound in the frequency range 20 Hz (deep bass) to 20,000 Hz (high treble) and over the audible range of 0 dB (the threshold of perception) to 140 dB (the threshold of pain). The ear does not respond equally to different frequencies of the same magnitude but is more responsive to mid-frequencies than to lower or higher frequencies. To quantify noise in a manner that approximates the response of the human ear, a weighting mechanism is used. This reduces the importance of lower and higher frequencies, in a similar manner to the human ear.

Furthermore, the perception of noise may be determined by a number of other factors, which may not necessarily be acoustic. In general, the impact of noise depends upon its level, the margin by which it exceeds the background level, its character, and its variation over a given period of time. In some cases, the time of day and other acoustic features such as tonality or impulsiveness may be important, as may the disposition of the affected individual. Any assessment of noise should give due consideration to all of these factors when assessing the significance of a noise source.

The most widely used weighting mechanism that best corresponds to the response of the human ear is the 'A'-weighting scale. This is widely used for environmental noise measurement, and the levels are denoted as dB(A) or L_{Aeq}, L_{A90} etc., according to the parameter being measured.

The decibel scale is logarithmic rather than linear, and hence a 3 dB increase in sound level represents a doubling of the sound energy present. Judgement of sound is subjective, but as a general guide a 10 dB(A) increase can be taken to represent a doubling of loudness, whilst an increase in the order of 3 dB(A) is generally regarded as the minimum difference needed to perceive a change under normal listening conditions.

Acoustic Terminology

Term	Description
dB (decibel)	The scale on which sound pressure level is expressed. Sound pressure level is defined as 20 times the logarithm of the ratio between the root-mean-square pressure of the sound field and a reference pressure (2x10-5Pa).
dB(A)	A-weighted decibel. This is a measure of the overall level of sound across the audible spectrum with a frequency weighting (i.e., 'A' - weighting) to compensate for the varying sensitivity of the human ear to sound at different frequencies.
$L_{Aeq,T}$	L_{Aeq} is defined as the notional steady sound level which, over a stated period of time (T), would contain the same amount of acoustical energy as the A - weighted fluctuating sound measured over that period.
L_{Amax}	L_{Amax} is the maximum A - weighted sound pressure level recorded over the period stated. L_{Amax} is sometimes used in assessing environmental noise where occasional loud noises occur, which may have little effect on the overall L_{eq} noise level but will still affect the noise environment. Unless described otherwise, it is measured using the 'fast' sound level meter response.
L_{10} and L_{90}	If a non-steady noise is to be described, it is necessary to know both its level and the degree of fluctuation. The Ln indices are used for this purpose, and the term refers to the level exceeded for n% of the time. Hence L_{10} is the level exceeded for 10% of the time, and the L_{90} is the level exceeded for 90% of the time.
Free-field Level	A sound field determined at a point away from reflective surfaces other than the ground with no significant contributions due to sound from other reflective surfaces. Generally, as measured outside and away from buildings.
Façade Level	A sound field determined at a distance of 1m in front of a large sound reflecting object such as a building façade.

APPENDIX B: Measured Background Noise Levels

Table B1: North western proposed housing area Friday 10/10/2025 Daytime period

Start time & date	Period (T)	dB $L_{Aeq,T}$	dB L_{AFmax}	dB $L_{A10,T}$	dB $L_{A90,T}$
Daytime					
10/10/2025 12:00:00	1-hour	53.3	78.1	54.5	51.1
10/10/2025 13:00:00	1-hour	55.1	73.9	57.0	52.0
10/10/2025 14:00:00	1-hour	53.8	72.2	54.9	52.2
10/10/2025 15:00:00	1-hour	53.2	71.0	54.2	51.9
10/10/2025 16:00:00	1-hour	50.8	67.8	52.6	48.1
10/10/2025 17:00:00	1-hour	49.3	61.8	50.9	47.0
10/10/2025 18:00:00	1-hour	49.4	69.5	50.7	45.5
10/10/2025 19:00:00	1-hour	47.6	70.8	48.9	43.9
10/10/2025 20:00:00	1-hour	46.7	65.3	48.6	43.1
10/10/2025 21:00:00	1-hour	45.5	57.2	47.7	41.9
10/10/2025 22:00:00	1-hour	45.3	56.7	47.8	41.4
Over survey period		**51.2**	***78.1**	**51.6**	**47.1**

*Maximum over survey period

Table B2: North western proposed housing area Friday 10/10/2025 – Saturday 11/10/2025 Night-time period

Start time & date	Period (T)	dB $L_{Aeq,T}$	dB L_{AFmax}	dB $L_{A10,T}$	dB $L_{A90,T}$
Night-time					
10/10/2025 23:00:00	1-hour	44.3	63.2	46.6	40.4
11/10/2025 00:00:00	1-hour	43.0	57.8	45.4	39.7
11/10/2025 01:00:00	1-hour	42.5	56.2	45.0	39.3
11/10/2025 02:00:00	1-hour	42.3	60.8	44.8	39.0
11/10/2025 03:00:00	1-hour	43.0	56.4	45.7	39.5
11/10/2025 04:00:00	1-hour	44.2	67.4	47.0	39.8
11/10/2025 05:00:00	1-hour	46.4	57.6	49.2	41.5
11/10/2025 06:00:00	1-hour	49.3	65.5	51.5	44.3
Over survey period		**45.1**	***67.4**	**46.9**	**40.4**

*Maximum over survey period

Table B3: North western proposed housing area Saturday 11/10/2025 Daytime period

Start time & date	Period (T)	dB $L_{Aeq,T}$	dB L_{AFmax}	dB $L_{A10,T}$	dB $L_{A90,T}$
Daytime					
11/10/2025 07:00:00	1-hour	51.0	71.3	53.0	45.8
11/10/2025 08:00:00	1-hour	53.0	84.7	53.8	47.1
11/10/2025 09:00:00	1-hour	50.8	68.4	52.0	46.1
11/10/2025 10:00:00	1-hour	49.6	68.0	50.9	45.8
11/10/2025 11:00:00	1-hour	49.2	70.3	50.6	45.2
11/10/2025 12:00:00	1-hour	47.9	66.9	49.5	44.6
11/10/2025 13:00:00	1-hour	48.4	69.9	49.3	44.3
11/10/2025 14:00:00	1-hour	48.0	73.7	49.0	44.0
11/10/2025 15:00:00	1-hour	51.8	82.1	50.5	43.9
11/10/2025 16:00:00	1-hour	47.7	68.4	49.4	44.3
11/10/2025 17:00:00	1-hour	48.9	70.8	50.3	45.0
11/10/2025 18:00:00	1-hour	52.5	77.5	52.7	46.2
11/10/2025 19:00:00	1-hour	49.7	66.3	51.8	45.5
11/10/2025 20:00:00	1-hour	48.7	67.8	50.9	44.0
11/10/2025 21:00:00	1-hour	48.5	68.8	50.4	43.4
11/10/2025 22:00:00	1-hour	48.0	60.0	50.8	43.4
Over survey period		**49.9**	***84.7**	**50.9**	**44.9**

*Maximum over survey period

Table B4: North western proposed housing area Saturday 11/10/2025 – Sunday 12/10/2025 Night-time period

Start time & date	Period (T)	dB $L_{Aeq,T}$	dB L_{AFmax}	dB $L_{A10,T}$	dB $L_{A90,T}$
Night-time					
11/10/2025 23:00:00	1-hour	47.2	63.0	49.8	43.1
12/10/2025 00:00:00	1-hour	45.3	57.7	48.5	40.0
12/10/2025 01:00:00	1-hour	44.8	61.7	47.9	39.1
12/10/2025 02:00:00	1-hour	44.9	64.1	47.7	40.7
12/10/2025 03:00:00	1-hour	45.8	57.9	48.7	41.2
12/10/2025 04:00:00	1-hour	44.0	56.4	47.2	39.1
12/10/2025 05:00:00	1-hour	45.7	56.2	48.6	40.8
12/10/2025 06:00:00	1-hour	48.7	73.2	50.4	42.7
Over survey period		**46.0**	***73.2**	**48.6**	**40.8**

*Maximum over survey period

Table B5: North western proposed housing area Sunday 12/10/2025 Daytime period

Start time & date	Period (T)	dB $L_{Aeq,T}$	dB L_{AFmax}	dB $L_{A10,T}$	dB $L_{A90,T}$
Daytime					
12/10/2025 07:00:00	1-hour	53.5	81.9	52.5	44.7
12/10/2025 08:00:00	1-hour	51.6	72.8	53.2	45.6
12/10/2025 09:00:00	1-hour	51.9	71.6	51.9	45.8
12/10/2025 10:00:00	1-hour	51.3	74.6	52.3	46.0
12/10/2025 11:00:00	1-hour	50.0	71.6	51.2	45.9
12/10/2025 12:00:00	1-hour	50.6	77.5	51.8	46.1
12/10/2025 13:00:00	1-hour	49.2	67.0	51.1	44.9
12/10/2025 14:00:00	1-hour	48.6	65.6	50.3	44.4
12/10/2025 15:00:00	1-hour	48.9	72.6	50.4	44.0
12/10/2025 16:00:00	1-hour	48.8	65.9	50.8	45.1
12/10/2025 17:00:00	1-hour	49.7	70.9	51.7	44.9
12/10/2025 18:00:00	1-hour	50.1	69.3	52.2	45.4
12/10/2025 19:00:00	1-hour	48.6	65.0	50.7	44.4
12/10/2025 20:00:00	1-hour	46.7	61.6	49.0	42.1
12/10/2025 21:00:00	1-hour	46.3	65.3	48.3	40.4
12/10/2025 22:00:00	1-hour	44.5	56.6	47.5	39.7
Over survey period		**49.9**	***81.9**	**50.9**	**44.3**

*Maximum over survey period

Table B6: North western proposed housing area Sunday 12/10/2025 – Monday 13/10/2025 Night-time period

Start time & date	Period (T)	dB $L_{Aeq,T}$	dB L_{AFmax}	dB $L_{A10,T}$	dB $L_{A90,T}$
Night-time					
12/10/2025 23:00:00	1-hour	43.6	55.7	46.8	38.5
13/10/2025 00:00:00	1-hour	41.9	54.7	44.8	37.9
13/10/2025 01:00:00	1-hour	42.5	61.6	44.6	38.4
13/10/2025 02:00:00	1-hour	41.6	55.4	44.8	37.4
13/10/2025 03:00:00	1-hour	42.3	54.7	45.2	37.7
13/10/2025 04:00:00	1-hour	43.7	56.6	47.1	37.9
13/10/2025 05:00:00	1-hour	46.8	59.2	49.4	41.4
13/10/2025 06:00:00	1-hour	49.0	69.7	51.3	44.0
Over survey period		**44.7**	***69.7**	**46.8**	**39.2**

*Maximum over survey period

Table B7: North western proposed housing area Monday 13/10/2025 Daytime period

Start time & date	Period (T)	dB $L_{Aeq,T}$	dB L_{AFmax}	dB $L_{A10,T}$	dB $L_{A90,T}$
Daytime					
13/10/2025 07:00:00	1-hour	54.3	74.6	55.4	48.8
13/10/2025 08:00:00	1-hour	53.0	68.3	54.3	49.7
13/10/2025 09:00:00	1-hour	54.2	67.2	55.5	52.1
13/10/2025 10:00:00	1-hour	54.6	74.8	55.4	52.9
13/10/2025 11:00:00	1-hour	53.1	70.5	54.7	50.3
13/10/2025 12:00:00	1-hour	54.2	67.1	55.5	52.6
13/10/2025 13:00:00	1-hour	53.2	66.8	54.9	50.6
13/10/2023 14:00:00	1-hour	54.6	68.5	55.9	52.8
13/10/2025 15:00:00	1-hour	54.1	65.7	55.2	52.7
13/10/2025 16:00:00	1-hour	53.7	65.2	55.3	51.0
13/10/2025 17:00:00	1-hour	51.3	72.9	52.3	47.5
13/10/2025 18:00:00	1-hour	49.5	74.3	51.4	45.4
13/10/2025 19:00:00	1-hour	48.1	62.2	50.3	44.1
13/10/2025 20:00:00	1-hour	48.7	64.4	50.7	42.6
13/10/2025 21:00:00	1-hour	44.7	60.2	47.3	40.3
13/10/2025 22:00:00	1-hour	44.4	61.4	47.5	39.0
Over survey period		**52.6**	***74.8**	**53.2**	**48.3**

*Maximum over survey period

Table B8: North western proposed housing area Monday 13/10/2025 – Tuesday 14/10/2025 Night-time period

Start time & date	Period (T)	dB $L_{Aeq,T}$	dB L_{AFmax}	dB $L_{A10,T}$	dB $L_{A90,T}$
Night-time					
13/10/2025 23:00:00	1-hour	42.3	59.3	45.0	38.7
14/10/2025 00:00:00	1-hour	42.5	55.6	45.8	38.2
14/10/2025 01:00:00	1-hour	42.1	59.3	45.0	37.1
14/10/2025 02:00:00	1-hour	41.6	58.3	44.7	36.8
14/10/2025 03:00:00	1-hour	41.9	54.6	45.1	37.1
14/10/2025 04:00:00	1-hour	43.1	56.6	46.1	38.4
14/10/2025 05:00:00	1-hour	46.0	61.5	48.4	41.6
14/10/2025 06:00:00	1-hour	47.5	66.7	49.6	43.7
Over survey period		**43.9**	***66.7**	**46.2**	**39.0**

*Maximum over survey period

Table B9 North western proposed housing area Tuesday 14/10/2025 Daytime period

Start time & date	Period (T)	dB $L_{Aeq,T}$	dB L_{AFmax}	dB $L_{A10,T}$	dB $L_{A90,T}$
Daytime					
14/10/2025 07:00:00	1-hour	53.9	72.2	55.0	49.1
14/10/2025 08:00:00	1-hour	54.8	68.0	55.9	53.2
14/10/2025 09:00:00	1-hour	53.8	69.7	55.5	51.5
14/10/2025 10:00:00	1-hour	54.2	71.3	55.0	53.1
14/10/2025 11:00:00	1-hour	54.9	69.2	56.5	52.5
14/10/2025 12:00:00	1-hour	53.9	67.3	55.1	52.0
14/10/2025 13:00:00	1-hour	53.4	70.0	54.9	51.2
14/10/2025 14:00:00	1-hour	54.5	71.1	55.5	53.0
14/10/2025 15:00:00	1-hour	54.1	68.4	55.5	52.4
14/10/2025 16:00:00	1-hour	52.9	70.9	54.6	48.3
14/10/2025 17:00:00	1-hour	50.1	69.5	51.5	47.1
14/10/2025 18:00:00	1-hour	49.6	70.0	51.3	46.5
14/10/2025 19:00:00	1-hour	47.8	66.8	49.6	44.0
14/10/2025 20:00:00	1-hour	47.2	64.8	49.5	43.1
14/10/2025 21:00:00	1-hour	46.3	68.7	48.3	42.4
14/10/2025 22:00:00	1-hour	45.1	60.1	48.0	40.0
Over survey period		**52.6**	***72.2**	**53.2**	**48.7**

*Maximum over survey period

Table B10: North western proposed housing area Tuesday -14/10/2025 – Wednesday 15/10/2025 Night-time period

Start time & date	Period (T)	dB $L_{Aeq,T}$	dB L_{AFmax}	dB $L_{A10,T}$	dB $L_{A90,T}$
Night-time					
14/10/2025 23:00:00	1-hour	44.3	60.6	47.0	38.6
15/10/2025 00:00:00	1-hour	44.2	64.2	46.6	38.1
15/10/2025 01:00:00	1-hour	42.1	58.6	44.9	37.5
15/10/2025 02:00:00	1-hour	42.5	55.8	46.0	36.9
15/10/2025 03:00:00	1-hour	42.5	56.7	45.8	36.4
15/10/2025 04:00:00	1-hour	43.3	54.9	46.6	36.6
15/10/2025 05:00:00	1-hour	46.7	62.5	49.2	41.3
15/10/2025 06:00:00	1-hour	48.5	65.8	50.6	44.8
Over survey period		**44.8**	***65.8**	**47.1**	**38.8**

*Maximum over survey period

Table B11: North western proposed housing area Wednesday 15/10/2025 Daytime period

Start time & date	Period (T)	dB $L_{Aeq,T}$	dB L_{AFmax}	dB $L_{A10,T}$	dB $L_{A90,T}$
Daytime					
15/10/2025 07:00:00	1-hour	53.3	71.5	54.7	50.7
15/10/2025 08:00:00	1-hour	54.5	68.9	55.6	52.8
15/10/2025 09:00:00	1-hour	54.1	75.9	55.3	52.3
15/10/2025 10:00:00	1-hour	53.0	69.3	54.4	51.1
15/10/2025 11:00:00	1-hour	53.7	70.9	55.0	52.0
15/10/2025 12:00:00	1-hour	53.3	67.3	54.9	51.0
15/10/2025 13:00:00	1-hour	55.4	75.7	57.6	52.1
15/10/2025 14:00:00	1-hour	55.3	75.6	56.9	52.2
15/10/2025 15:00:00	1-hour	53.9	72.6	55.1	51.5
15/10/2025 16:00:00	1-hour	53.2	69.2	54.4	50.6
15/10/2025 17:00:00	1-hour	50.0	65.5	51.7	47.4
15/10/2025 18:00:00	1-hour	49.8	65.6	51.5	46.4
15/10/2025 19:00:00	1-hour	48.5	65.5	50.8	44.0
15/10/2025 20:00:00	1-hour	47.0	59.9	49.5	43.0
15/10/2025 21:00:00	1-hour	46.7	61.8	49.1	42.2
15/10/2025 22:00:00	1-hour	46.0	71.8	48.5	40.4
Over survey period		**52.6**	***75.9**	**53.4**	**48.7**

*Maximum over survey period

Table B12: North western proposed housing area Wednesday 15/10/2025 – Thursday 16/10/2025 Night-time period

Start time & date	Period (T)	dB $L_{Aeq,T}$	dB L_{AFmax}	dB $L_{A10,T}$	dB $L_{A90,T}$
Night-time					
15/10/2025 23:00:00	1-hour	43.3	59.2	46.1	38.8
16/10/2025 00:00:00	1-hour	43.4	58.5	46.8	38.4
16/10/2025 01:00:00	1-hour	42.8	55.7	46.0	37.3
16/10/2025 02:00:00	1-hour	44.2	59.3	48.2	37.1
16/10/2025 03:00:00	1-hour	42.7	60.4	46.2	37.5
16/10/2025 04:00:00	1-hour	45.0	65.0	48.0	38.0
16/10/2025 05:00:00	1-hour	48.3	59.7	50.8	43.6
16/10/2025 06:00:00	1-hour	48.8	67.5	51.3	44.6
Over survey period		**45.5**	***67.5**	**47.9**	**39.4**

*Maximum over survey period

Table B13: North western proposed housing area 16/10/2025 Daytime period

Start time & date	Period (T)	dB $L_{Aeq,T}$	dB L_{AFmax}	dB $L_{A10,T}$	dB $L_{A90,T}$
Daytime					
16/10/2025 07:00:00	1-hour	53.3	76.4	54.3	48.3
16/10/2025 08:00:00	1-hour	54.3	78.0	55.1	50.5
16/10/2025 09:00:00	1-hour	53.6	69.7	54.7	52.1
16/10/2025 10:00:00	1-hour	52.8	69.7	54.5	50.5
16/10/2025 11:00:00	1-hour	53.8	67.0	55.6	51.1
16/10/2025 12:00:00	1-hour	53.1	66.6	54.3	51.5
16/10/2025 13:00:00	1-hour	52.3	64.2	53.9	50.4
16/10/2025 14:00:00	1-hour	53.6	67.9	54.6	52.1
16/10/2025 15:00:00	1-hour	54.2	69.3	55.8	52.2
16/10/2025 16:00:00	1-hour	52.0	66.4	53.9	48.4
16/10/2025 17:00:00	1-hour	50.4	66.9	52.0	47.8
16/10/2025 18:00:00	1-hour	50.1	63.5	52.1	46.9
16/10/2025 19:00:00	1-hour	48.8	62.7	51.0	45.0
16/10/2025 20:00:00	1-hour	47.8	64.6	50.1	43.2
16/10/2025 21:00:00	1-hour	46.5	61.9	49.0	41.0
16/10/2025 22:00:00	1-hour	45.4	66.4	48.1	38.9
Over survey period		**52.1**	***78.0**	**53.1**	**48.1**

* Maximum over survey period

Table B14: North western proposed housing area Thursday 16/10/2025 – Friday 17/10/2025 Night-time period

Start time & date	Period (T)	dB $L_{Aeq,T}$	dB L_{AFmax}	dB $L_{A10,T}$	dB $L_{A90,T}$
Night-time					
16/10/2025 23:00:00	1-hour	42.9	57.3	46.1	37.2
17/10/2025 00:00:00	1-hour	43.8	70.4	45.7	36.3
17/10/2025 01:00:00	1-hour	42.0	58.4	45.3	36.5
17/10/2025 02:00:00	1-hour	42.7	58.7	46.3	36.8
17/10/2025 03:00:00	1-hour	42.2	59.9	45.5	37.0
17/10/2025 04:00:00	1-hour	44.9	65.9	48.1	38.3
17/10/2025 05:00:00	1-hour	47.5	62.7	50.1	42.3
17/10/2025 06:00:00	1-hour	48.4	65.3	50.9	43.8
Over survey period		**45.0**	***70.4**	**47.3**	**38.5**

*Maximum over survey period

Table B15: South western proposed housing area Friday 10/10/2025 Daytime period

Start time & date	Period (T)	dB $L_{Aeq,T}$	dB L_{AFmax}	dB $L_{A10,T}$	dB $L_{A90,T}$
Daytime					
10/10/2025 12:00:00	1-hour	57.0	68.3	58.6	54.9
10/10/2025 13:00:00	1-hour	56.9	66.1	58.4	55.1
10/10/2025 14:00:00	1-hour	55.7	77.0	56.6	54.0
10/10/2025 15:00:00	1-hour	56.8	71.6	58.0	54.9
10/10/2025 16:00:00	1-hour	57.2	76.9	58.4	54.6
10/10/2025 17:00:00	1-hour	56.8	74.8	57.9	53.7
10/10/2025 18:00:00	1-hour	54.8	65.3	56.5	52.6
10/10/2025 19:00:00	1-hour	55.0	79.1	56.2	52.2
10/10/2025 20:00:00	1-hour	53.9	69.7	55.5	52.0
10/10/2025 21:00:00	1-hour	53.9	65.2	55.5	52.0
10/10/2025 22:00:00	1-hour	53.3	64.8	54.6	51.7
Over survey period		**55.8**	***79.1**	**56.9**	**53.4**

*Maximum over survey period

Table B16: South western proposed housing area Friday 10/10/2025 – Saturday 11/10/2025 Night-time period

Start time & date	Period (T)	dB $L_{Aeq,T}$	dB L_{AFmax}	dB $L_{A10,T}$	dB $L_{A90,T}$
Night-time					
10/10/2025 23:00:00	1-hour	53.0	65.0	54.3	51.6
11/10/2025 00:00:00	1-hour	52.8	63.3	53.7	51.6
11/10/2025 01:00:00	1-hour	52.9	62.2	54.1	51.6
11/10/2025 02:00:00	1-hour	53.1	60.5	54.4	51.7
11/10/2025 03:00:00	1-hour	53.2	61.2	54.7	51.7
11/10/2025 04:00:00	1-hour	54.9	65.7	56.8	52.3
11/10/2025 05:00:00	1-hour	56.0	76.6	56.8	53.3
11/10/2025 06:00:00	1-hour	56.2	75.5	56.7	53.6
Over survey period		**54.2**	***76.6**	**55.2**	**52.2**

*Maximum over survey period

Table B17: South western proposed housing area Saturday 11/10/2025 Daytime period

Start time & date	Period (T)	dB $L_{Aeq,T}$	dB L_{AFmax}	dB $L_{A10,T}$	dB $L_{A90,T}$
Daytime					
11/10/2025 07:00:00	1-hour	58.5	83.8	58.2	55.0
11/10/2025 08:00:00	1-hour	56.8	75.8	57.9	55.0
11/10/2025 09:00:00	1-hour	55.3	72.1	56.6	53.1
11/10/2025 10:00:00	1-hour	54.8	70.6	56.0	52.4
11/10/2025 11:00:00	1-hour	53.2	63.4	54.3	51.8
11/10/2025 12:00:00	1-hour	54.2	68.8	55.3	52.5
11/10/2025 13:00:00	1-hour	53.7	71.7	54.6	52.0
11/10/2025 14:00:00	1-hour	53.5	72.7	54.2	51.9
11/10/2025 15:00:00	1-hour	54.2	72.7	55.4	52.3
11/10/2025 16:00:00	1-hour	54.9	69.3	56.0	53.1
11/10/2025 17:00:00	1-hour	56.5	75.0	57.4	53.7
11/10/2025 18:00:00	1-hour	56.3	79.7	57.3	53.7
11/10/2025 19:00:00	1-hour	56.9	81.5	56.3	53.1
11/10/2025 20:00:00	1-hour	54.9	69.9	55.9	53.2
11/10/2025 21:00:00	1-hour	54.8	67.3	56.0	53.2
11/10/2025 22:00:00	1-hour	55.2	78.9	55.5	53.2
Over survey period		**55.5**	***83.8**	**56.1**	**53.1**

*Maximum over survey period

Table B18: South western proposed housing area Saturday 11/10/2025 – Sunday 12/10/2025 Night-time period

Start time & date	Period (T)	dB $L_{Aeq,T}$	dB L_{AFmax}	dB $L_{A10,T}$	dB $L_{A90,T}$
Night-time					
11/10/2025 23:00:00	1-hour	53.7	68.2	54.5	52.3
12/10/2025 00:00:00	1-hour	53.4	64.7	54.3	52.2
12/10/2025 01:00:00	1-hour	53.3	59.5	54.1	52.3
12/10/2025 02:00:00	1-hour	53.2	61.4	54.1	52.2
12/10/2025 03:00:00	1-hour	52.8	60.8	53.7	51.7
12/10/2025 04:00:00	1-hour	53.3	62.3	54.4	52.1
12/10/2025 05:00:00	1-hour	53.6	71.1	54.7	52.4
12/10/2025 06:00:00	1-hour	54.3	74.4	55.2	52.9
Over survey period		**53.5**	***74.4**	**54.4**	**52.3**

*Maximum over survey period

Table B19: South western proposed housing area Sunday 12/10/2025 Daytime period

Start time & date	Period (T)	dB $L_{Aeq,T}$	dB L_{AFmax}	dB $L_{A10,T}$	dB $L_{A90,T}$
Daytime					
12/10/2025 07:00:00	1-hour	54.0	68.7	55.0	52.7
12/10/2025 08:00:00	1-hour	54.2	74.2	54.7	52.7
12/10/2025 09:00:00	1-hour	54.3	68.4	55.4	52.9
12/10/2025 10:00:00	1-hour	55.3	76.7	56.1	52.5
12/10/2025 11:00:00	1-hour	54.6	77.3	54.5	52.3
12/10/2025 12:00:00	1-hour	54.0	78.7	53.9	51.7
12/10/2025 13:00:00	1-hour	53.2	66.8	54.0	51.6
12/10/2025 14:00:00	1-hour	53.6	76.1	54.5	52.0
12/10/2025 15:00:00	1-hour	55.6	86.4	55.2	52.4
12/10/2025 16:00:00	1-hour	55.3	90.4	55.4	52.6
12/10/2025 17:00:00	1-hour	56.2	75.5	56.9	53.7
12/10/2025 18:00:00	1-hour	54.2	67.3	55.4	52.6
12/10/2025 19:00:00	1-hour	53.9	67.5	54.8	52.3
12/10/2025 20:00:00	1-hour	53.4	69.4	54.3	52.1
12/10/2025 21:00:00	1-hour	53.4	67.4	54.2	52.1
12/10/2025 22:00:00	1-hour	52.7	60.8	53.5	51.6
Over survey period		**54.3**	***90.4**	**54.9**	**52.4**

*Maximum over survey period

Table B20: South western proposed housing area Sunday 12/10/2025 – Monday 13/10/2025 Night-time period

Start time & date	Period (T)	dB $L_{Aeq,T}$	dB L_{AFmax}	dB $L_{A10,T}$	dB $L_{A90,T}$
Night-time					
12/10/2025 23:00:00	1-hour	52.0	59.2	52.6	51.2
13/10/2025 00:00:00	1-hour	52.2	57.9	52.9	51.2
13/10/2025 01:00:00	1-hour	52.0	60.1	52.7	51.1
13/10/2025 02:00:00	1-hour	52.1	65.5	52.9	51.1
13/10/2025 03:00:00	1-hour	52.2	58.8	53.1	51.2
13/10/2025 04:00:00	1-hour	53.1	70.3	54.0	51.5
13/10/2025 05:00:00	1-hour	53.5	66.2	54.6	51.9
13/10/2025 06:00:00	1-hour	55.7	81.3	57.0	53.0
Over survey period		**53.0**	***81.3**	**53.7**	**51.5**

*Maximum over survey period

Table B21: South western proposed housing area Monday 13/10/2025 Daytime period

Start time & date	Period (T)	dB $L_{Aeq,T}$	dB L_{AFmax}	dB $L_{A10,T}$	dB $L_{A90,T}$
Daytime					
13/10/2025 07:00:00	1-hour	55.5	75.4	56.9	53.4
13/10/2025 08:00:00	1-hour	55.5	72.5	56.9	53.5
13/10/2025 09:00:00	1-hour	55.6	65.4	57.0	53.6
13/10/2025 10:00:00	1-hour	56.3	70.3	57.4	54.7
13/10/2025 11:00:00	1-hour	57.4	76.7	58.8	54.9
13/10/2025 12:00:00	1-hour	56.5	77.1	58.3	54.3
13/10/2025 13:00:00	1-hour	57.0	76.8	58.7	54.7
13/10/2023 14:00:00	1-hour	57.3	78.6	58.6	54.6
13/10/2025 15:00:00	1-hour	56.9	83.7	57.9	54.4
13/10/2025 16:00:00	1-hour	54.5	72.9	55.7	52.9
13/10/2025 17:00:00	1-hour	55.1	77.2	55.6	52.6
13/10/2025 18:00:00	1-hour	54.0	67.8	55.3	52.2
13/10/2025 19:00:00	1-hour	54.8	74.9	55.2	52.1
13/10/2025 20:00:00	1-hour	53.3	65.6	54.5	51.7
13/10/2025 21:00:00	1-hour	53.2	64.1	54.3	51.8
13/10/2025 22:00:00	1-hour	52.5	61.8	53.3	51.5
Over survey period		**55.6**	***83.7**	**56.5**	**53.3**

*Maximum over survey period

Table B22: South western proposed housing area Monday 13/10/2025 – Tuesday 14/10/2025 Night-time period

Start time & date	Period (T)	dB $L_{Aeq,T}$	dB L_{AFmax}	dB $L_{A10,T}$	dB $L_{A90,T}$
Night-time					
13/10/2025 23:00:00	1-hour	52.5	65.5	53.4	51.4
14/10/2025 00:00:00	1-hour	51.9	59.7	52.7	50.9
14/10/2025 01:00:00	1-hour	51.7	58.3	52.5	50.7
14/10/2025 02:00:00	1-hour	51.9	58.3	52.6	50.8
14/10/2025 03:00:00	1-hour	52.4	61.2	53.7	51.0
14/10/2025 04:00:00	1-hour	53.8	71.4	54.9	51.9
14/10/2025 05:00:00	1-hour	54.7	66.1	56.2	52.6
14/10/2025 06:00:00	1-hour	55.0	73.4	56.4	53.1
Over survey period		**53.2**	***73.4**	**54.1**	**51.6**

*Maximum over survey period

Table B23: South western proposed housing area Tuesday 14/10/2025 Daytime period

Start time & date	Period (T)	dB $L_{Aeq,T}$	dB L_{AFmax}	dB $L_{A10,T}$	dB $L_{A90,T}$
Daytime					
14/10/2025 07:00:00	1-hour	56.5	67.6	57.7	54.3
14/10/2025 08:00:00	1-hour	55.8	72.7	57.4	54.1
14/10/2025 09:00:00	1-hour	57.0	79.8	58.4	54.5
14/10/2025 10:00:00	1-hour	56.3	70.1	57.5	54.8
14/10/2025 11:00:00	1-hour	57.0	75.9	58.6	54.4
14/10/2025 12:00:00	1-hour	56.6	78.7	57.5	53.9
14/10/2025 13:00:00	1-hour	57.2	77.9	58.7	54.6
14/10/2025 14:00:00	1-hour	56.5	76.2	58.2	54.2
14/10/2025 15:00:00	1-hour	56.2	76.8	57.4	53.3
14/10/2025 16:00:00	1-hour	53.9	68.7	54.9	52.3
14/10/2025 17:00:00	1-hour	54.3	69.8	55.2	52.9
14/10/2025 18:00:00	1-hour	53.8	64.9	54.9	52.4
14/10/2025 19:00:00	1-hour	53.7	65.8	54.6	52.4
14/10/2025 20:00:00	1-hour	53.6	67.0	54.5	52.4
14/10/2025 21:00:00	1-hour	53.3	64.5	54.1	52.1
14/10/2025 22:00:00	1-hour	53.4	64.6	54.4	52.1
Over survey period		**55.6**	***79.8**	**56.5**	**53.4**

*Maximum over survey period

Table B24: South western proposed housing area Tuesday -14/10/2025 – Wednesday 15/10/2025 Night-time period

Start time & date	Period (T)	dB $L_{Aeq,T}$	dB L_{AFmax}	dB $L_{A10,T}$	dB $L_{A90,T}$
Night-time					
14/10/2025 23:00:00	1-hour	53.2	68.4	54.0	52.0
15/10/2025 00:00:00	1-hour	53.0	63.7	53.7	51.8
15/10/2025 01:00:00	1-hour	52.3	59.2	53.1	51.3
15/10/2025 02:00:00	1-hour	51.9	57.3	52.7	51.0
15/10/2025 03:00:00	1-hour	51.9	66.8	52.7	50.9
15/10/2025 04:00:00	1-hour	52.5	66.6	53.3	51.3
15/10/2025 05:00:00	1-hour	53.4	65.9	54.5	51.9
15/10/2025 06:00:00	1-hour	55.5	77.8	56.7	53.1
Over survey period		**53.1**	***77.8**	**53.8**	**51.6**

*Maximum over survey period

Table B25: South western proposed housing area Wednesday 15/10/2025 Daytime period

Start time & date	Period (T)	dB $L_{Aeq,T}$	dB L_{AFmax}	dB $L_{A10,T}$	dB $L_{A90,T}$
Daytime					
15/10/2025 07:00:00	1-hour	56.0	69.1	57.2	54.1
15/10/2025 08:00:00	1-hour	55.9	71.1	57.0	54.6
15/10/2025 09:00:00	1-hour	57.1	76.7	58.4	54.4
15/10/2025 10:00:00	1-hour	56.9	80.7	58.2	54.6
15/10/2025 11:00:00	1-hour	56.9	80.6	57.8	54.6
15/10/2025 12:00:00	1-hour	56.8	78.2	58.3	54.3
15/10/2025 13:00:00	1-hour	56.9	76.1	58.4	54.1
15/10/2025 14:00:00	1-hour	56.7	80.0	58.4	54.0
15/10/2025 15:00:00	1-hour	56.1	75.8	57.2	53.9
15/10/2025 16:00:00	1-hour	54.3	76.6	55.0	52.3
15/10/2025 17:00:00	1-hour	55.4	76.9	55.8	53.0
15/10/2025 18:00:00	1-hour	54.6	70.1	55.9	53.1
15/10/2025 19:00:00	1-hour	54.0	64.3	55.1	52.7
15/10/2025 20:00:00	1-hour	53.9	64.8	55.1	52.4
15/10/2025 21:00:00	1-hour	53.3	67.9	54.5	51.8
15/10/2025 22:00:00	1-hour	52.7	62.2	53.4	51.8
Over survey period		**55.7**	***80.7**	**56.6**	**53.5**

*Maximum over survey period

Table B26: South western proposed housing area Wednesday 15/10/2025 – Thursday 16/10/2025 Night-time period

Start time & date	Period (T)	dB $L_{Aeq,T}$	dB L_{AFmax}	dB $L_{A10,T}$	dB $L_{A90,T}$
Night-time					
15/10/2025 23:00:00	1-hour	52.9	68.4	53.7	51.7
16/10/2025 00:00:00	1-hour	52.4	59.7	53.3	51.0
16/10/2025 01:00:00	1-hour	51.9	60.2	52.8	50.9
16/10/2025 02:00:00	1-hour	52.1	61.6	52.9	51.0
16/10/2025 03:00:00	1-hour	52.0	57.8	52.8	50.9
16/10/2025 04:00:00	1-hour	53.1	60.9	54.4	51.5
16/10/2025 05:00:00	1-hour	53.9	67.8	55.2	52.2
16/10/2025 06:00:00	1-hour	55.8	88.7	56.9	53.2
Over survey period		**53.2**	***88.7**	**54.0**	**51.6**

*Maximum over survey period

Table B27: South western proposed housing area Thursday 16/10/2025 Daytime period

Start time & date	Period (T)	dB $L_{Aeq,T}$	dB L_{AFmax}	dB $L_{A10,T}$	dB $L_{A90,T}$
Daytime					
16/10/2025 07:00:00	1-hour	56.7	72.8	58.1	54.4
16/10/2025 08:00:00	1-hour	56.1	69.6	57.2	54.7
16/10/2025 09:00:00	1-hour	57.4	80.6	57.9	53.7
16/10/2025 10:00:00	1-hour	55.9	76.1	57.3	54.0
16/10/2025 11:00:00	1-hour	57.3	77.4	59.0	54.3
16/10/2025 12:00:00	1-hour	56.9	78.1	58.4	54.4
16/10/2025 13:00:00	1-hour	57.2	75.9	58.9	54.7
16/10/2025 14:00:00	1-hour	56.5	75.7	58.0	54.3
16/10/2025 15:00:00	1-hour	56.2	76.0	57.5	53.6
16/10/2025 16:00:00	1-hour	55.6	75.8	56.4	53.9
16/10/2025 17:00:00	1-hour	55.8	73.7	56.9	53.4
16/10/2025 18:00:00	1-hour	53.9	71.7	55.1	52.2
16/10/2025 19:00:00	1-hour	53.3	67.8	54.3	51.9
16/10/2025 20:00:00	1-hour	53.8	73.6	54.7	52.0
16/10/2025 21:00:00	1-hour	52.3	67.7	53.3	51.1
16/10/2025 22:00:00	1-hour	52.0	59.3	52.9	50.9
Over survey period		**55.7**	***80.6**	**56.6**	**53.3**

* Maximum over survey period

Table B28: South western proposed housing area Thursday 16/10/2025 – Friday 17/10/2025 Night-time period

Start time & date	Period (T)	dB $L_{Aeq,T}$	dB L_{AFmax}	dB $L_{A10,T}$	dB $L_{A90,T}$
Night-time					
16/10/2025 23:00:00	1-hour	52.0	64.3	52.6	51.0
17/10/2025 00:00:00	1-hour	51.8	58.8	52.5	50.9
17/10/2025 01:00:00	1-hour	52.0	57.7	52.8	50.9
17/10/2025 02:00:00	1-hour	52.0	64.0	52.7	50.9
17/10/2025 03:00:00	1-hour	52.0	58.4	52.9	51.0
17/10/2025 04:00:00	1-hour	53.0	67.0	54.2	51.4
17/10/2025 05:00:00	1-hour	53.8	70.2	55.1	52.0
17/10/2025 06:00:00	1-hour	54.8	78.9	56.1	52.8
Over survey period		**52.8**	***78.9**	**53.6**	**51.4**

*Maximum over survey period

APPENDIX C: Noise Sources & Receptor Grid References

Table C1: Proposed residential housing area receptors

Noise sources	Grid references	
	X (Easting)	Y (Northing)
North western receptor	437682	409157
South western receptor	437918	408829

Table C2: Permitted plant

Noise sources	Grid references	
	X (Easting)	Y (Northing)
MDS trommel loaded by excavator	437883	408918
Kleeman crusher loaded by excavator	437902	408913
HGV movements (start)	437706	408954
HGV movements (end)	437930	408912

Table C3: Aggregate wash plant

Noise sources	Grid references	
	X (Easting)	Y (Northing)
Loading aggregate wash plant hopper with wheeled loader	437890	408913
Sand plant	437913	408909
Wash plant	437933	408843

APPENDIX D: Noise Predictions

Table D1: Permitted operations

Noise source	North western proposed residential receptors $L_{Aeq,1h}$	South western proposed residential receptors $L_{Aeq,1h}$
MDS trommel loaded by excavator	45.2	50.1
Kleeman crusher loaded by excavator	45.5	41.4
HGV movements	37.9	38.0
Combined operations	**48.7**	**50.9**

Table D2: Aggregate wash plant

Noise source	North western proposed residential receptors $L_{Aeq,1h}$	South western proposed residential receptors $L_{Aeq,1h}$
Loading aggregate wash plant hopper with excavator	40.6	48.8
Sand plant	38.8	40.2
Wash plant	33.0	45.7
Combined operations	**43.2**	**50.9**

Table D3: Combined operations

Noise source	North western proposed residential receptors $L_{Aeq,1h}$	South western proposed residential receptors $L_{Aeq,1h}$
MDS trommel loaded by excavator	45.2	50.1
Kleeman crusher loaded by excavator	45.5	41.4
HGV movements	37.9	38.0
Sand plant	38.8	40.2
Wash plant	33.0	45.7
Loading aggregate wash plant hopper with excavator	Not included as MDS trommel will feed directly into the wash plant hopper	
Combined operations	**49.3**	**52.3**

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