023295-R25-B

21 May 2026

66 Jersey Street, Manchester

Planning Condition 19b discharge report

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Version	Date	Comments	Author	Reviewer
A	20 May 26		JP	JA
B	21 May 26	Updates to Figure 3, Figure 4, Figure 6, wording changes throughout	JP	JA

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Summary

Sandy Brown has been appointed by John Sisk & Son Ltd to provide acoustic advice on the new build residential development Manchester Life Development Company 3 Ltd scheme at 66 Jersey Street in Manchester.

The proposal comprises an 8-storey building forming 190 residential apartments and ground floor commercial and amenity spaces.

Planning Permission has been granted under application number 139289/JO/2024. Plant noise egress limits are set out in 023295-R02-A *Planning noise report (Jersey Wharf)* dated 14 February 2024, in line with the MCC criteria and Planning Condition 19.

This report sets out relevant information to discharge Planning Condition 19b.

The results of near field sample measurements of operational and safely accessible plant have been assessed to inform the plant noise egress assessment. These measurements were undertaken on 12 May 2026.

The plant noise egress limits for normally operating plant are expected to be achieved.

Emergency plant noise egress is predicted to meet the day criterion at all noise sensitive receptors, however a 3 dB exceedance to the night criterion is predicted at Eliza Yard a due to contributions from the smoke extract fans.

Given that significant attenuation measures have been adopted, it is proposed that a 3 dB exceedance to the emergency plant noise limits at night may be acceptable. This is on the basis that all practical mitigation measures have been included, routine testing is only carried out during the day and emergency plant operation at night would be during an actual life safety emergency only. This is subject to agreement with MCC.

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1 Introduction

Sandy Brown has been appointed by John Sisk & Son Ltd to provide acoustic advice on the proposed new build Manchester Life Development Company 3 Ltd scheme at 66 Jersey street, Manchester.

The proposal comprises an 8-storey building forming 190 residential apartments and ground floor commercial and amenity spaces.

Planning Permission has been granted under application number 139289/JO/2024. Plant noise egress limits are set out in 023295-RO2-C *Planning noise report (Jersey Wharf)* dated 14 February 2024, in line with the MCC criteria and Planning Condition 19.

This report sets out relevant information to discharge Planning Condition 19b which relates to plant noise egress.

Sample noise measurements were undertaken on 12 May 2026. These measurements form the basis of the plant noise egress assessment which has been carried out to discharge Planning Condition 19b.

2 Site description

2.1 The site and its surroundings

The site location in relation to its surroundings is shown in Figure 1, highlighted in yellow. The proposal comprises an 8-storey building forming 190 residential apartments and ground floor commercial and amenity spaces.

Externally terminating noise generating plant is proposed as part of the development which is detailed within this report.

The Site is bounded by Jersey Street to the north, Rochdale Canal to the south, and Flint Glass Wharf (a residential building) to the west, and grassland to the east.

The Site can be accessed by pedestrians via Jersey Street.

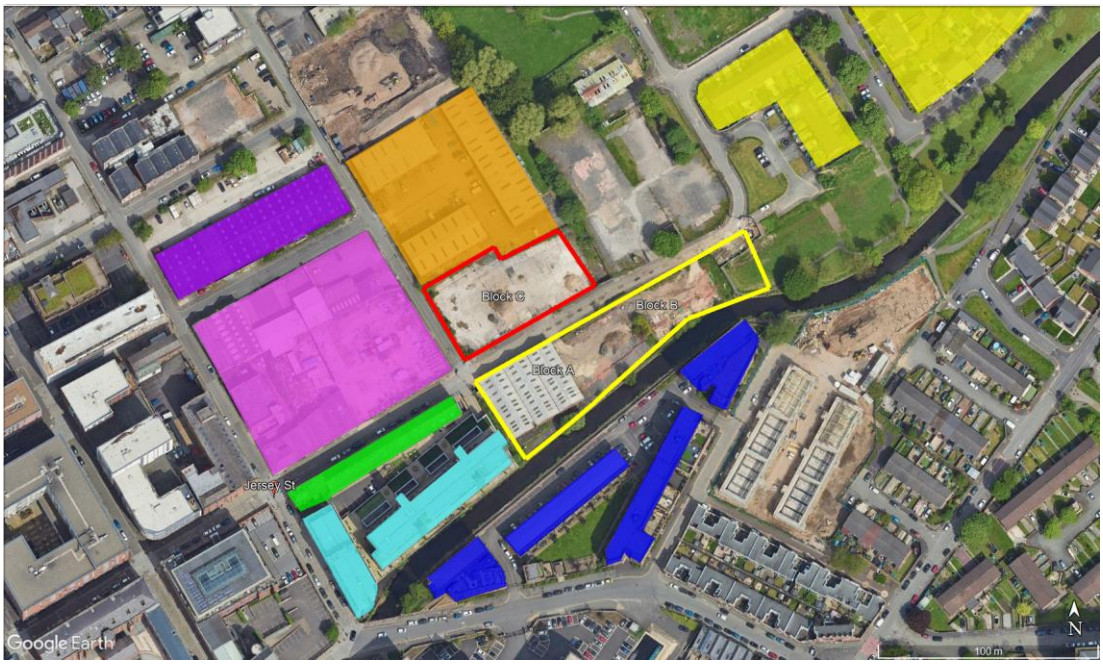


Figure 1 Aerial view of the site (courtesy of Google Earth Pro)

2.2 Adjacent premises

A summary of the nearby noise sensitive premises is set out below in reference to Figure 1:

- Residential premises on Jersey St, Rodney St and Mozart Close to the north east (highlighted in yellow)
- Residential premises at Flint Glass Wharf to the south west (highlighted in light blue)
- Residential premises at Canal Point, Navigation Street, Burgess House, Avro House and 3 New Union St to the south (highlighted in navy blue)
- Trading estate at City Court to the north (highlighted in orange)
- Flint Glass Works, 62-64 Jersey St understood to be commercial to the south west (highlighted in green)
- Pheonix Ironworks (137346/FO/2023) is a proposed development to the north west of the site, to the current warehouse spaces highlighted in pink
- Factories on George Leigh St and Naval St to the north west (highlighted in purple).

In addition to the above existing receptors, there is another Manchester Life Development Company 3 Ltd scheme, Eliza Yard (130354/FO/2021), proposed to the north of the site, across Jersey Street (outlined in red).

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3 Plant noise egress criteria

The wording of Planning Condition 19 as per application number 139289/JO/2024 is as follows:

> *"19) (a) Prior to the first occupation of the development, details of any externally mounted ancillary plant, equipment and servicing shall be submitted for approval in writing by the City Council, as Local Planning Authority. For the avoidance of doubt, externally mounted plant, equipment and servicing shall be selected and/or acoustically treated in accordance with a scheme designed so as to achieve a rating level of 5 dB (L_{Aeq}) below the typical background (L_{A90}) level at the nearest noise sensitive location.*
>
> *(b) Prior to the first occupation of the development, a verification report will be required to validate that the work undertaken conforms to the recommendations and requirements approved as part of part (a) of this planning condition. The verification report shall include post completion testing to confirm the noise criteria has been met. In instances of non-conformity, these shall be detailed along with mitigation measures required to ensure compliance with the noise criteria. A verification report and measures shall be agreed until such a time as the development complies with part (a) of this planning condition."*

3.1 Standard guidance

BS 4142:2014:+A1:2019 *Methods for rating and assessing industrial and commercial sound* (BS 4142) provides a method for assessing noise from items such as building services plant against the existing background sound levels at nearby noise sensitive premises.

BS 4142 suggests that if the noise level is 10 dB or more higher than the existing background sound level, it is likely to be an indication of a significant adverse impact. If the level is 5 dB above the existing background sound level, it is likely to be an indication of an adverse impact. If the level does not exceed the background sound level, it is an indication of having a low impact.

If the noise contains 'attention catching features' such as tones, bangs etc, a penalty, based on the type and impact of those features, is applied.

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3.2 Plant noise egress limits

The following plant noise egress limits were established following a baseline noise survey at the site between 5 March 2021 and 8 March 2021 and between 3 September 2021 and 7 September 2021, as detailed in 023295-R02-A *Planning noise report (Jersey Street)* dated 14 February 2024.

3.2.1 Normally operating plant items

The cumulative noise levels from the operation of all new plant at 1 m from the worst affected window of the nearest noise sensitive premises shall not exceed the limits set out in Table 1, in line with the MCC criteria and Planning Condition 19.

These limits do not include any attention catching features. Penalty corrections for attention catching features may be significant and will need to be considered in line with BS4142.

Plant noise egress to external publicly accessible locations shall be limited to be no higher than L_{Aeq} 55 dB.

Table 1 Plant noise limits at 1 m from the nearest noise sensitive premises

Location	Maximum sound pressure level at 1 m from noise sensitive premises, $L_{Aeq,15min}$ (dB)	
	Day (07:00-23:00)	Night (23:00-07:00)
Eliza Yard, Flint Glass Wharf	40	34
Residential premises at Canal Point, Navigation Street, Burgess House, Avro House, 3 Union St	34	30
Flint Glass Works, 62-64 Jersey St	40	-

3.2.2 Emergency plant items

Relaxations of 15 dB over the limits given above have been agreed with MCC for emergency plant items operating for a short period. The limits for emergency plant are provided in Table 2. All routine testing of emergency plant shall be during the day for brief periods.

Table 2 Emergency plant noise limits at 1 m from the nearest noise sensitive premises

Location	Maximum sound pressure level at 1 m from noise sensitive premises, $L_{Aeq,15min}$ (dB)	
	Day (07:00-23:00)	Night (23:00-07:00)
Eliza Yard, Flint Glass Wharf	55	49
Residential premises at Canal Point, Navigation Street, Burgess House, Avro House, 3 Union St	49	45
Flint Glass Works, 62-64 Jersey St	55	-

3.2.3 Attention catching features

The noise from building services plant and systems shall not contain any distinguishable, discrete, continuous notes (whine, hiss, screech, hum, etc) or distinct impulses (bangs, clicks, clatters or thumps) and shall not be irregular enough to attract attention.

Further guidance on attention catching features is provided in Appendix A.

4 Installed and proposed plant

4.1 Normally operating plant items

The planning condition specifically relates to externally mounted plant. All normally operating plant units are internally mounted but have atmospheric terminations and so have been considered within the assessment.

The following items of normally operating plant are proposed, based on information received from Ameon (the building services engineer).

- 2 x Ground floor HRU units to both Block A and Block B
- 1 x RRK 160 ground floor extract fan to Block A
- 1 x ENERGISAVA 250CA MVHR unit per apartment.

The location of the ground floor HRUs in Block A are shown in red in Figure 2.

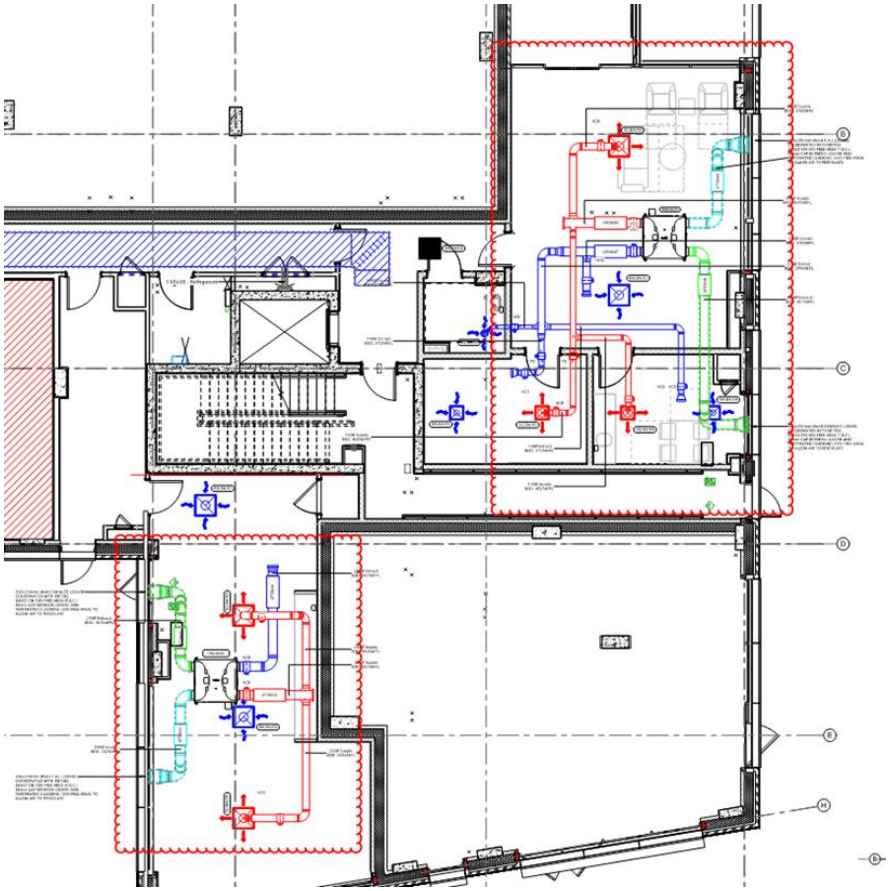


Figure 2 HRU location Block A (EYJW-AME-BA-00-DR-M-570002)

The locations of HRUs in Block B is shown in red in Figure 3.

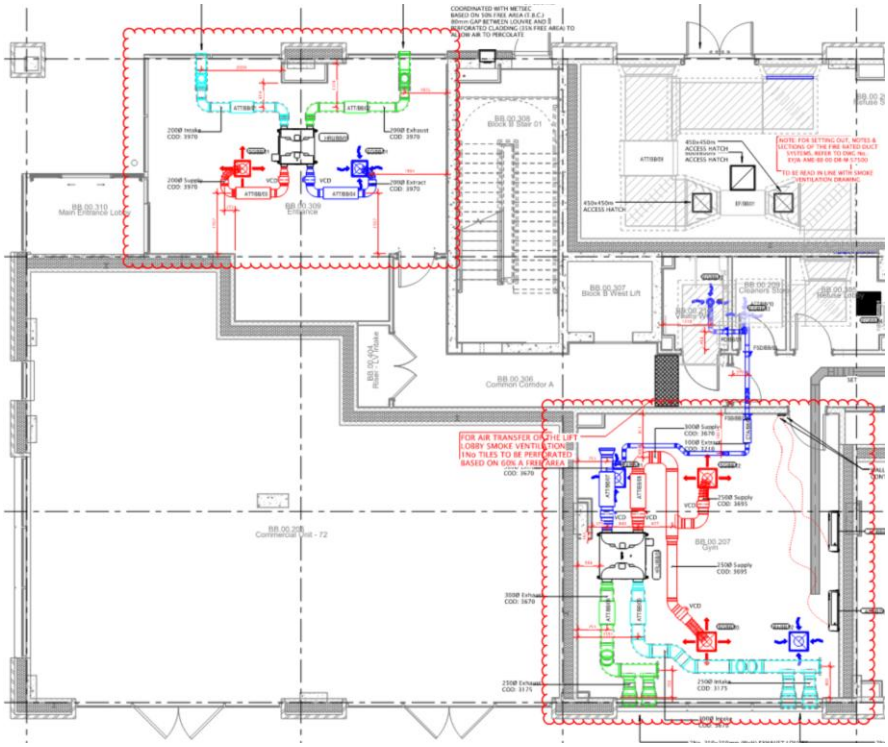


Figure 3 HRU locations – Block B (EYJW-AME-BA-00-DR-M-570001)

The received sound pressure levels measured at 1.5 m for the installed HRUs are presented in Table 3.

Table 3 Received HRU sound pressure levels at 1.5 m

Item	Sound pressure level L_{eq} (dB) at 1.5 m [1] Octave-band centre frequency (Hz)							
	63	125	250	500	1000	2000	4000	8000
HRUs Block A	45	48	41	35	33	27	23	21
HRU Gym Block B	46	49	41	39	36	28	22	16
HRU Entrance Block B	41	45	35	30	27	22	15	10

[1] Sound pressure data from the HRU Technical submittal (EYJW-AME-ZZ-XX-TQ-M-000012-C02)

The location of the Block A ground floor extract fan is shown in red in Figure 4.

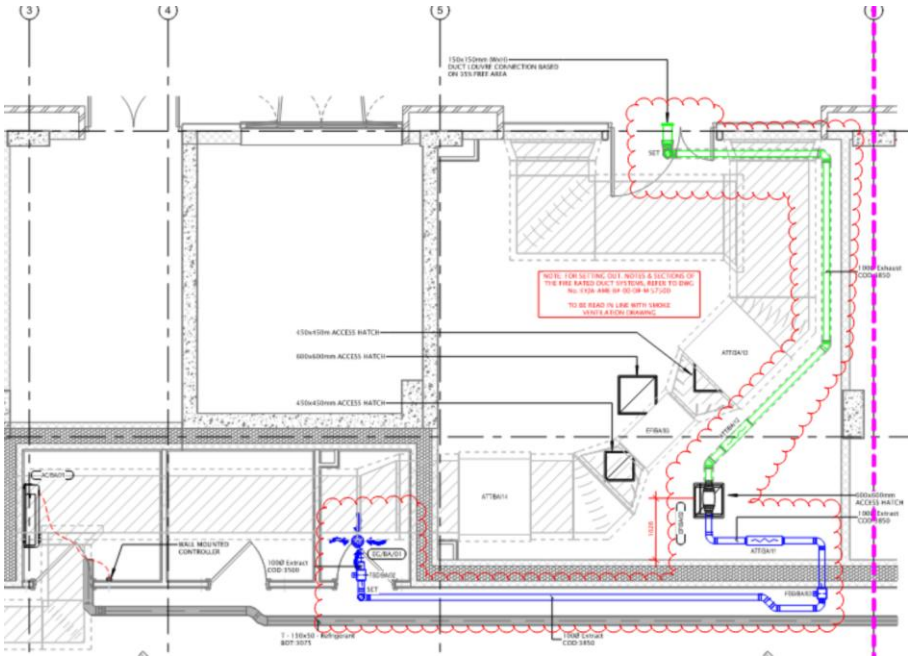


Figure 4 Location of ground floor extract fan (EYJW-AME-BA-00-DR-M-570001)

Noise data for the RRK 160 extract fan has been provided in A-weighted octave band sound power levels, these are shown in Table 4.

Table 4 Received RRK 160 ground floor extract fan sound power levels

Item	Sound power level, L_w (dB) [1] Octave-band centre frequency (Hz)							
	63	125	250	500	1000	2000	4000	8000
RRK 160	3[2]	3	14	14	16	18	16	6

[1] Sound power data from Fans Technical submittal (EYJW-AME-ZZ-XX-TQ-M-000009-C01)

[2] 63 Hz value is assumed based on provided sound power at 125 Hz.

Attenuators are proposed to the HRU, the received insertion losses of the proposed attenuator are shown in Table 5.

Table 5 Proposed HRU attenuator insertion losses

Item	Insertion loss L_i (dB) [1] Octave-band centre frequency (Hz)							
	63	125	250	500	1000	2000	4000	8000
HRUs Block A	1	2	6	15	20	15	14	10
HRU Gym Block B	2	3	7	18	25	19	17	13
HRU Entrance Block B	1	2	6	15	20	15	14	10
RRK 160 extract fan	1	1	5	17	25	24	22	17

[1] Insertion loss data from the Attenuators Technical submittal (EYJW-AME-ZZ-XX-TQ-M-000012-P01)

The received sound power levels for installed MVHRs are shown in Table 6. Each apartment has an intake and exhaust termination serving the MVHR, located at the apartment facade at high level.

Table 6 MVHR sound power levels

Item	Sound power level L_w (dB)[1] Octave-band centre frequency (Hz)							
	63	125	250	500	1000	2000	4000	8000
1 Bedroom Inlet	46	45	45	33	25	23	19	20
1 Bedroom Outlet	54	54	46	39	28	29	26	21
2 Bedroom Inlet	48	47	49	37	28	26	21	21
2 Bedroom Outlet	56	57	50	43	32	33	30	23
3 Bedroom Inlet	57	58	50	45	45	38	30	28
3 Bedroom Outlet	56	61	58	55	55	50	43	41

[1] Sound power data from the MVHR Technical submittal (EYJW-AME-ZZ-XX-TQ-M-000014-P04)

4.2 Emergency plant items

The following items of emergency plant are installed:

- Emergency generator to Block A
- 2 x RS-LCS063F2-A6/18 Smoke extract fans to Block A (fan no. BA/03 and BA/04)
- 1 x RS-LCS056P2-A6/24 Smoke extract fans to Block B (fan no. BB/01)

- 1 x RS-LCSO31J2-A3/10 Smoke extract fans to both Block A and Block B (fans no. BA/01 and BB/02).

The location of the emergency generator is shown in Figure 5.

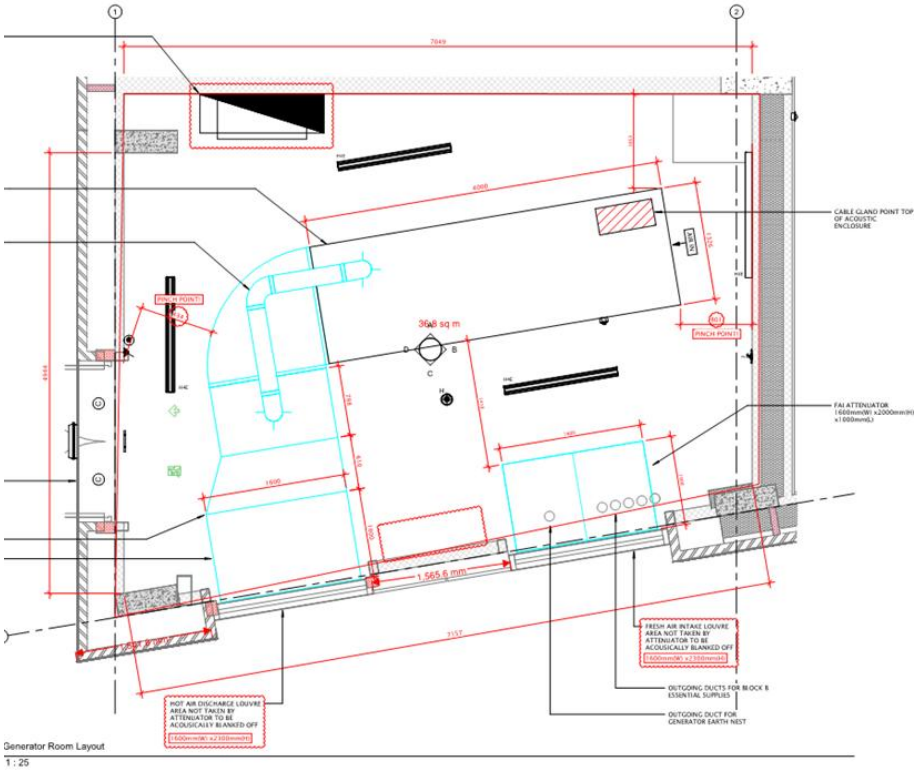


Figure 5 Generator location (EYJW-AME-BA-00-DR-E-610007-P03)

The locations of smoke extract outlets in Block A are shown in Figure 6.

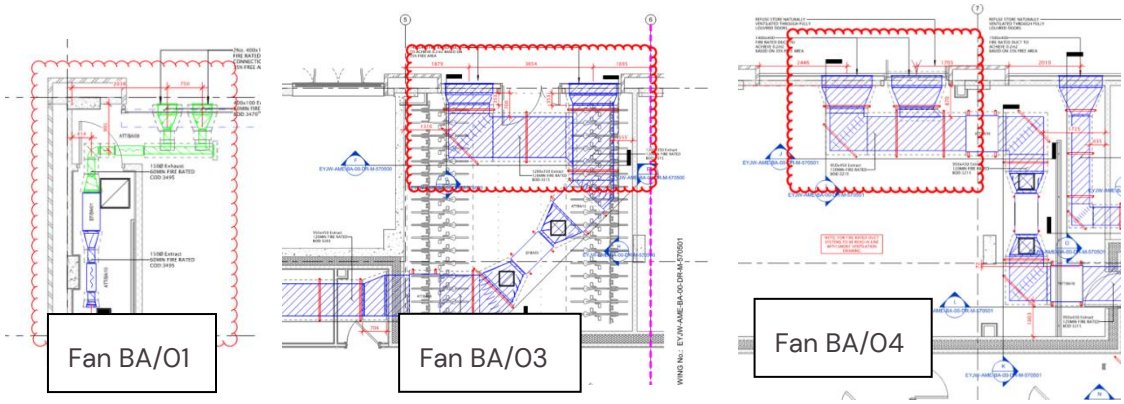


Figure 6 Block A smoke extract layout (EYJW-AME-BA-00-DR-M-570500-P01 & EYJW-AME-BA-00-DR-M-570501-P01)

The location of smoke extract outlets in Block B are shown in Figure 7.

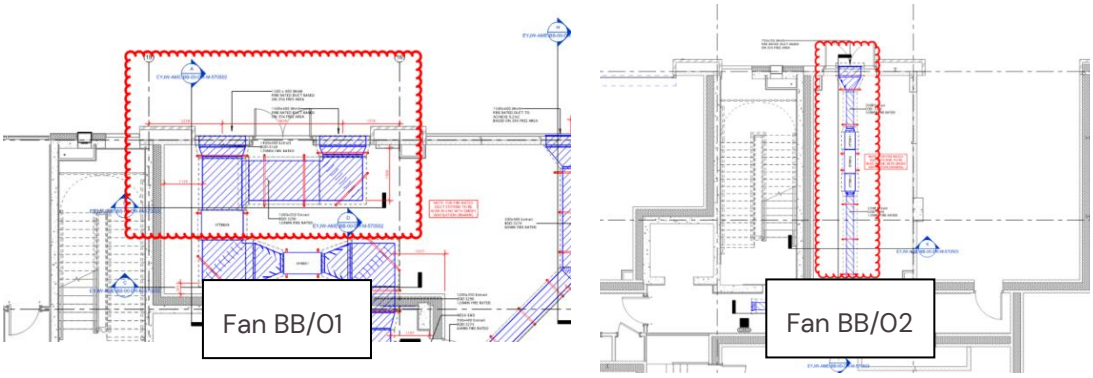


Figure 7 Block B smoke extract layout (EYJW-AME-BB-00-DR-M-570502-P01 & EYJW-AME-BB-00-DR-M-570503-P01)

Sound pressure levels at 1 m from the generator room inlet and discharge have been provided by Central Power on behalf of Ameon (received from Ameon via email 6 May 2025). The provided sound pressure levels are shown in Table 7.

Table 7 Received generator sound pressure levels - generator

Item	Sound pressure level $L_{eq,}$ (dB), at 1 m Octave-band centre frequency (Hz)							
	63	125	250	500	1000	2000	4000	8000
Inlet[1]	86	80	64	45	40	39	37	56
Outlet[1]	86	82	67	50	40	39	40	59

[1] Includes losses from all attenuation

Noise data has been provided for smoke extract fans for 30% duty (shown in Table 8) and 100% duty (shown in Table 9). It is understood this corresponds with routine testing and life safety emergency operation, respectively.

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Table 8 Received smoke extract sound power levels (30% duty)

Item	Sound power level $L_{w,}$ (dB) Octave-band centre frequency (Hz)							
	63	125	250	500	1000	2000	4000	8000
LCSO31J2-A3/10 Outlet (fan BA/01)	65	64	54	52	66	46	38	33
LCSO63F2-A6/18 Outlet (fan BA/03)	74	73	72	73	68	65	60	52
LCSO63F2-A6/18 Outlet (fan BA/04)	74	73	72	73	68	65	60	52
LCSO56P2-A6/24 Outlet (fan BB/01)	72	71	66	67	62	56	53	46
LCSO31J2-A3/10 Outlet (fan BB/02)	65	64	54	52	66	46	38	33

Table 9 Received smoke extract sound power levels (100% duty)

Item	Sound power level $L_{w,}$ (dB) Octave-band centre frequency (Hz)							
	63	125	250	500	1000	2000	4000	8000
LCSO31J2-A3/10 Outlet (fan BA/01)	79	85	86	83	78	71	69	66
LCSO63F2-A6/18 Outlet (Table 8fan BA/03)	95	94	95	100	105	99	94	88
LCSO63F2-A6/18 Outlet (fan BA/04)	95	94	95	100	105	99	94	88
LCSO56P2-A6/24 Outlet (fan BB/01)	99	99	98	95	95	94	92	86
LCSO31J2-A3/10 Outlet (fan BB/02)	79	85	86	83	78	71	69	66

Attenuation is proposed to the generator and smoke extracts, the insertion losses of proposed attenuation is shown in Table 10.

Table 10 Received attenuator insertion losses

Item	Insertion loss, D_i (dB) Octave-band centre frequency (Hz)							
	63	125	250	500	1000	2000	4000	8000
Generator Inlet [1]	5	9	16	30	39	39	31	26
Generator Discharge [1]	8	11	17	26	33	38	39	34
LCS063F2-A6/18 (fan BA/03) [2]	5	10	18	28	36	28	24	14
LCS063F2-A6/18 (fan BA/04) [3]	5	10	17	26	33	25	21	12
LCS056P2-A6/24 (fan BB/01) [4]	4	7	14	22	29	22	19	11
LCS031J2-A3/10 (fan BA/01) [5]	2	4	8	16	32	29	26	15
LCS031J2-A3/10 (fan BB/02) [5]	5	9	14	22	34	31	25	18

[1] These losses have been accounted for in the generator inlet and discharge sound pressure levels shown in Table 7

[2] Based on Attenuator option 3 (EF/BA/03) in 92736Q14 Performance Schedule received from Ameon via email 7 July 2025

[3] Based on Attenuator option 3 (EF/BA/04) in 92736Q14 Performance Schedule received from Ameon via email 7 July 2025

[4] Based on Attenuator option 4 (EF/BB/01) in 92736Q15 Performance Schedule received from Ameon via email 7 July 2025

[5] Based on attenuator technical submittal EYJW-AME-ZZ-XX-TQ-M-000002-P05 received from Ameon via email on 12 June 2025.

5 Measurements

Attended measurements of the noise levels associated with the installed plant items were carried out on 12 May 2026. At all locations measurements were at least 1.5 m above the ground/roof level and at least 1 m from any other reflective surface.

A mark-up of the measurement locations is provided in Appendix B. Details of the measurement methodology and sound level meters used are provided in Appendix C.

5.1 Results

A summary of the measurement results is provided in Table 11. No tonal characteristics were noted during the measurements, as such a correction for attention catching features has not been applied.

The surrounding noise environment consisted of distant road noise, security fencing banging in the wind, rubbish flying in the wind, bird song and residents in the surrounding apartments.

Additional specific sources for each measurement position are provided in Table 11.

Table 11 Summary of external plant noise measurement results

Test ref	Location	Plant on /off	Measured sound pressure level, $L_{Aeq,1min}$ (dB)	Comments
A	Generator Louvre RHS at 2m	On	54	Generator dominant. Pedestrians passing on the canal. Wind rattling security fencing
A	Generator Louvre RHS at 2m	On	54	
A	Generator Louvre RHS at 2m	On	54	
A	Generator Louvre RHS at 2m	Off	41	Birdsong and distant road noise. Occasional passing vehicle and banging gate. Some noise from residents
A	Generator Louvre RHS at 2m	Off	39	
A	Generator Louvre RHS at 2m	Off	40	
A	Generator Louvre LHS at 1m	On	60	Generator dominant. Pedestrians passing on the canal
A	Generator Louvre LHS at 1m	On	60	
A	Generator Louvre LHS at 1m	On	60	
A	Generator Louvre LHS at 1m	Off	41	Birdsong and distant road noise. Occasional passing vehicle and banging gate. Some noise from residents
A	Generator Louvre LHS at 1m	Off	39	
A	Generator Louvre LHS at 1m	Off	40	

Test ref	Location	Plant on /off	Measured sound pressure level, $L_{Aeq,1min}$ (dB)	Comments
A	Generator Louvre LHS at 2m	On	56	Generator dominant. Pedestrians passing on the canal
A	Generator Louvre LHS at 2m	On	56	
A	Generator Louvre LHS at 2m	On	57	
A	Generator Louvre LHS at 2m	Off	41	Birdsong and distant road noise. Occasional passing vehicle and banging gate. Some noise from residents
A	Generator Louvre LHS at 2m	Off	39	
A	Generator Louvre LHS at 2m	Off	40	
B	Generator door 2m	On	48	Generator just audible through door. Security fencing bang due to wind gusts
B	Generator door 2m	On	48	
B	Generator door 2m	On	51	
B	Generator door 2m	Off	47	Occasional passing car and gate bang
B	Generator door 2m	Off	46	
B	Generator door 2m	Off	46	
C	2m from facade	On	47	Fan only just audible. Wind speeds high rattling security fences, car pass by and rubbish flying in the wind
C	2m from facade	On	48	
C	2m from facade	On	50	
C	2m from facade	Off	42	Tonal beeping fire alarm inside the building. Occasional car pass by
C	2m from facade	Off	42	
C	2m from facade	Off	45	
E	2m from facade	On	47	Fan only just audible
E	2m from facade	On	46	
E	2m from facade	On	47	

Test ref	Location	Plant on /off	Measured sound pressure level, $L_{Aeq,1min}$ (dB)	Comments
E	2m from facade	Off	43	Distant emergency sirens and road traffic noise
E	2m from facade	Off	41	
E	2m from facade	Off	40	
N	2m from facade	On	59	Fan noise audible as a low rumble. Distant road noise, birds and rubbish flying in the wind
N	2m from facade	On	59	
N	2m from facade	On	59	
N	2m from facade	Off	44	Vehicle movement on residential estate, children playing on bikes in the street, distant dogs barking
N	2m from facade	Off	42	
N	2m from facade	Off	43	
1	Canal side	On	46	Generator is just audible, passing pedestrians, vehicles moving on residential estate, bird song, distant road noise
1	Canal side	On	50	
1	Canal side	On	46	
1	Canal side	Off	44	Passing pedestrians, bird song, distant road noise
1	Canal side	Off	43	
1	Canal side	Off	42	
K	2m from facade	On	47	HRU is just audible, Distant road noise, fire alarm bleeping and birdsong
K	2m from facade	On	46	
K	2m from facade	On	46	
K	2m from facade	Off	42	Distant road noise, fire alarm bleeping and birdsong
K	2m from facade	Off	42	
K	2m from facade	Off	41	
M	2m from facade	On	43	HRU only just audible. Passing pedestrians on canal, bird song, distant road noise
M	2m from facade	On	44	
M	2m from facade	On	43	
M	2m from facade	Off	38	Passing pedestrians on canal. Bird song, distant road noise
M	2m from facade	Off	39	
M	2m from facade	Off	39	

Test ref	Location	Plant on /off	Measured sound pressure level, $L_{Aeq,1min}$ (dB)	Comments
F	1m from facade	On	47	HRU just audible. Beeping from Block A and Block B alarms just audible, distant road noise, birdsong
F	1m from facade	On	47	
F	1m from facade	On	47	
F	1m from facade	Off	39	Beeping from Block A and Block B, distant road noise, dogs barking in distance, passing pedestrians on canal
F	1m from facade	Off	39	
F	1m from facade	Off	38	
G	2m from facade	On	47	HRU just audible. Birdsong, distant road noise, passing pedestrians on canal
G	2m from facade	On	47	
G	2m from facade	On	46	
G	2m from facade	Off	38	Birdsong, distant road noise, passing pedestrians on canal
G	2m from facade	Off	38	
G	2m from facade	Off	37	
H	1m from facade	On	38	MVHR inaudible. Birdsong, distant road noise, passing pedestrians on canal
H	1m from facade	On	38	
H	1m from facade	On	41	
H	2m from facade	Off	38	Birdsong, distant road noise, passing pedestrians on canal
H	2m from facade	Off	38	
H	2m from facade	Off	37	
I	1m from facade	On	36	MVHR inaudible. Birdsong, distant road noise, passing pedestrians on canal
I	1m from facade	On	39	
I	1m from facade	On	38	
I	2m from facade	Off	38	Birdsong, distant road noise, passing pedestrians on canal
I	2m from facade	Off	38	
I	2m from facade	Off	37	
J	1m from facade	On	40	MVHR inaudible. Birdsong, distant road noise, passing pedestrians on canal
J	1m from facade	On	40	
J	1m from facade	On	39	

Test ref	Location	Plant on /off	Measured sound pressure level, $L_{Aeq,1min}$ (dB)	Comments
J	1m from facade	Off	41	Birdsong, distant road noise, passing pedestrians on canal
J	1m from facade	Off	40	
J	1m from facade	Off	41	

6 Assessment

6.1 Normal operation

Noise associated with the MVHR units or RRK 160 extract fan was not audible at any of the measurement positions. On the basis that MVHR or extract fan noise was not audible at the near field measurement positions, refence has therefore been made to the manufacturers data previously provided.

Noise from the HRUs was just audible at the measurement positions. The background and distance corrected noise data from the survey is provided in Table 12 for comparison to the provided manufacturer data in Table 3.

Table 12 Measured HRU noise data

Item	Sound pressure level L_{eq} (dB) at 1.5 m [1] Octave-band centre frequency (Hz)							
	63	125	250	500	1000	2000	4000	8000
HRUs Block A (position F)	50	59	49	32	36	25	24	16
HRUs Block A (position G)	56	62	54	38	33	31	30	18
HRU Gym Block B (position M)	53	60	46	36	35	22	26	17
HRU Entrance Block B (position K)	54	57	51	41	39	34	27	20

An updated assessment has been undertaken of the normally operating plant including the HRU measurement data. The results of this assessment indicate that plant noise egress due to normally operating plant is predicted to comply with the acoustic criteria for both day and night periods at all nearby noise sensitive receptors.

Any future tenant plant would need to be controlled to at least 10 dB below the overall plant noise egress limits.

6.2 Emergency plant items

6.2.1 Routine testing

Measured noise from the generator and smoke extract fans was taken at 100% duty, as confirmed by Ameon. Data provided in Table 8 (for 30% design duty) for the smoke extract fans for both Block A & B (fan BA03 and BB01) as per Section 4.2 will be used within this assessment.

This assessment assumes all plant is operating simultaneously.

In practice, the plant items will be tested individually and at 30% design duty (as per Table 8), therefore, this assessment considers the worst-case scenario.

A summary of predicted emergency plant noise egress levels is presented in Table 13.

Table 13 Emergency plant noise egress predicted levels and criteria

Receptor	Predicted emergency plant noise egress level, L_{Aeq} (dB)	Maximum emergency plant noise criteria, L_{Aeq} (dB)
Eliza Yard, Flint Glass Wharf	47	55 (day)
Residential premises at Canal Point, Navigation Street, Burgess House, Avro House, 3 Union St	40	49 (day)
Flint Glass Works, 62-64 Jersey St	33	55 (day)

Emergency plant noise egress is predicted to meet the day criterion at all noise sensitive receptors.

6.2.2 Life Safety emergency

This assessment considers noise from the generator and from the smoke extract fans operating at 100% capacity (this is understood to correspond to emergency conditions).

A summary of predicted emergency plant noise egress levels during a life safety emergency is presented in Table 14. This includes the measured noise from the generator and smoke extract fans taken at 100% duty.

Data provided in Table 9 (for 100% design duty) for the smoke extract fans for both Block A & B (fan BA03 and BB01) as per Section 4.2 will be used within this assessment.

Table 14 Life safety emergency - emergency plant noise egress predicted levels and criteria

Receptor	Predicted emergency plant noise egress level, L_{Aeq} (dB)	Maximum emergency plant noise criteria (day), L_{Aeq} (dB)
Eliza Yard	52	55 (day), 49 (night)
Flint Glass Wharf	47	55 (day), 49 (night)
Navigation Street	40	49 (day), 45 (night)
Flint Glass Works, 62-64 Jersey St	42	55 (day)

At Eliza Yard, the emergency plant noise egress limits are predicted to be achieved during the day, though a 3 dB exceedance is predicted during the night.

The emergency plant noise limits are expected to be met at all other noise sensitive receptors during the day and night.

Given that low noise equipment has been selected and significant attenuation measures have been adopted, it is proposed that a 3 dB exceedance to the emergency plant noise limits at night may be acceptable to MCC. This is on the basis that all practical mitigation measures have been included, routine testing is only carried out during the day, and any emergency plant operation at night would be during an actual life safety emergency only. This is subject to agreement with MCC.

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Appendix A

BS 4142 corrections for attention catching features

The following applies where plant noise is assessed in accordance with BS 4142:2014+A1:2019.

If the proposed plant noise contains attention catching features (such as tonal elements, whines, whistles, bangs etc), penalty corrections should be applied based on the type and impact of the features.

If appropriate, a subjective assessment of the plant features can be adopted. Where the plant noise contains tonal elements, the following corrections can be made depending on how perceptible the tone is at the noise receptor:

- 0 dB where the tone is not perceptible
- 2 dB where the tone is just perceptible
- 4 dB where the tone is clearly perceptible
- 6 dB where the tone is highly perceptible.

Where the plant noise is impulsive, the following corrections can be made depending on how perceptible the impulsivity is at the noise receptor:

- 0 dB where the impulse is not perceptible
- 3 dB where the impulse is just perceptible
- 6 dB where the impulse is clearly perceptible
- 9 dB where the impulse is highly perceptible.

For noise which is equally both impulsive and tonal, then both features can be accounted for by linearly summing the corrections for both characteristics.

If the plant has other distinctive characteristics, such as intermittency, then a 3 dB correction can be made.

If a subjective assessment of tonality is not appropriate, an objective assessment can be made by analysis of time-averaged, third-octave band sound pressure levels. A noise source is deemed to be tonal if the level in a third-octave band exceeds the level in adjacent third-octave bands by the level differences given below:

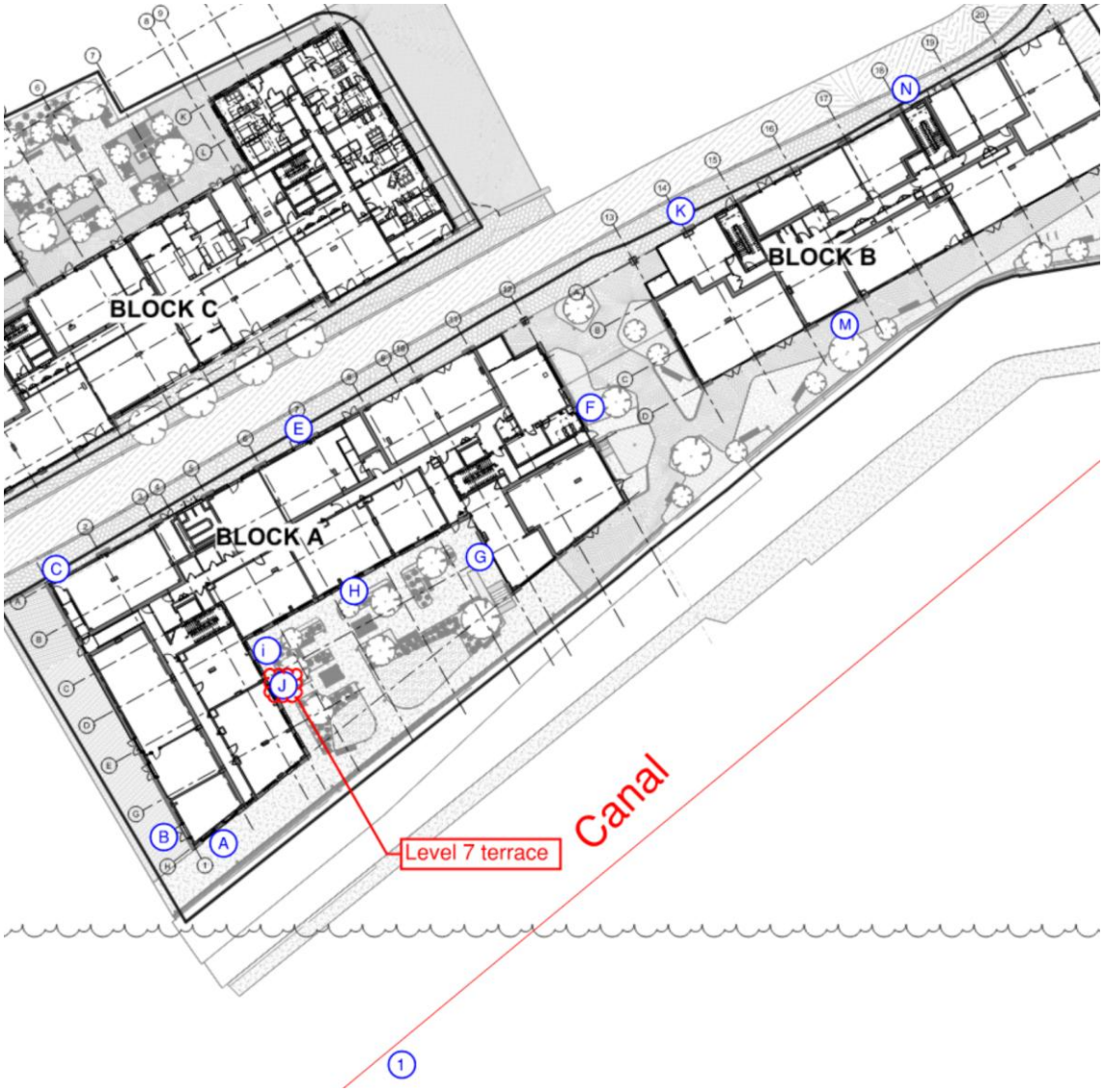
- 15 dB in the low frequency third-octave bands (25 Hz to 125 Hz)
- 8 dB in the mid frequency third-octave bands (160 Hz to 400 Hz)
- 5 dB in the high frequency third-octave bands (500 Hz to 10000 Hz).

If an objective assessment identifies the plant noise to be tonal then a 6 dB correction must be made.

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Appendix B

Measurement location mark-ups


BLOCK C
BLOCK A
BLOCK B
Level 7 terrace
Canal

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Appendix C

Survey details

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Reference standards

- BS 7445 Part 1: 2003 *Description and measurement of environmental noise, Part 1. Guide to quantities and procedures*
- BS 7445: Part 2: 1991 *Description and measurement of environmental noise, Part 2. Guide to the acquisition of data pertinent to land use*.

Equipment

The unattended and attended noise measurements were taken using a Rion NL-52 sound level meter.

Calibration details for the equipment used during the survey are provided in Table A1.

Table A1 Equipment calibration data

Equipment description	Type/serial number	Manufacturer	Calibration expiry	Calibration certification number
Sound level meter	NL-52/01010788	Rion	24 Sep 27	TRAC25/09422
Microphone	UC-59/20416	Rion	24 Sep 27	TRAC25/09422
Pre-amp	NH-25/11436	Rion	24 Sep 27	TRAC25/09422
Calibrator	SV30A/10559	Svantek	24 Sep 27	TRAC25/09422

Calibration of the meters used for the measurements is traceable to national standards. Calibration certificates for the sound level meter used in this survey are available upon request.

Calibration checks were carried out on the meters and their measurement chains at the beginning and end of the survey. No significant calibration deviation occurred.

Noise indices

Noise indices recorded included the following:

- $L_{Aeq,T}$ The A-weighted equivalent continuous sound pressure level over a period of time, T.

Sound pressure level measurements are normally taken with an A-weighting (denoted by a subscript 'A', eg, L_{A90}) to approximate the frequency response of the human ear.

A more detailed explanation of these quantities can be found in BS 7445: Part 1: 2003 *Description and measurement of environmental noise, Part 1. Guide to quantities and procedures*.

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Weather conditions

During the attended noise measurements, the weather was generally clear and dry and no rain occurred. Wind speeds were measured to be between 1m/s to 5m/s at the various measurement positions.

These weather conditions are considered suitable for obtaining representative measurements.

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