

REPORT TITLE:

Hornsey Town Hall – HQM Noise levels in External Areas Assessment

CLIENT DETAILS:

Ardmore Construction

DATE:

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Document Status and Revision Schedule

Issue/Revision	Description/Comments	Date	Prepared by	Approved by
First Issue	Checked & Authorised	01/05/25	PY	MJ
RevA	Page 3 spelling corrected & page 13 credits corrected	12/05/25	PY	MJ

1. Introduction

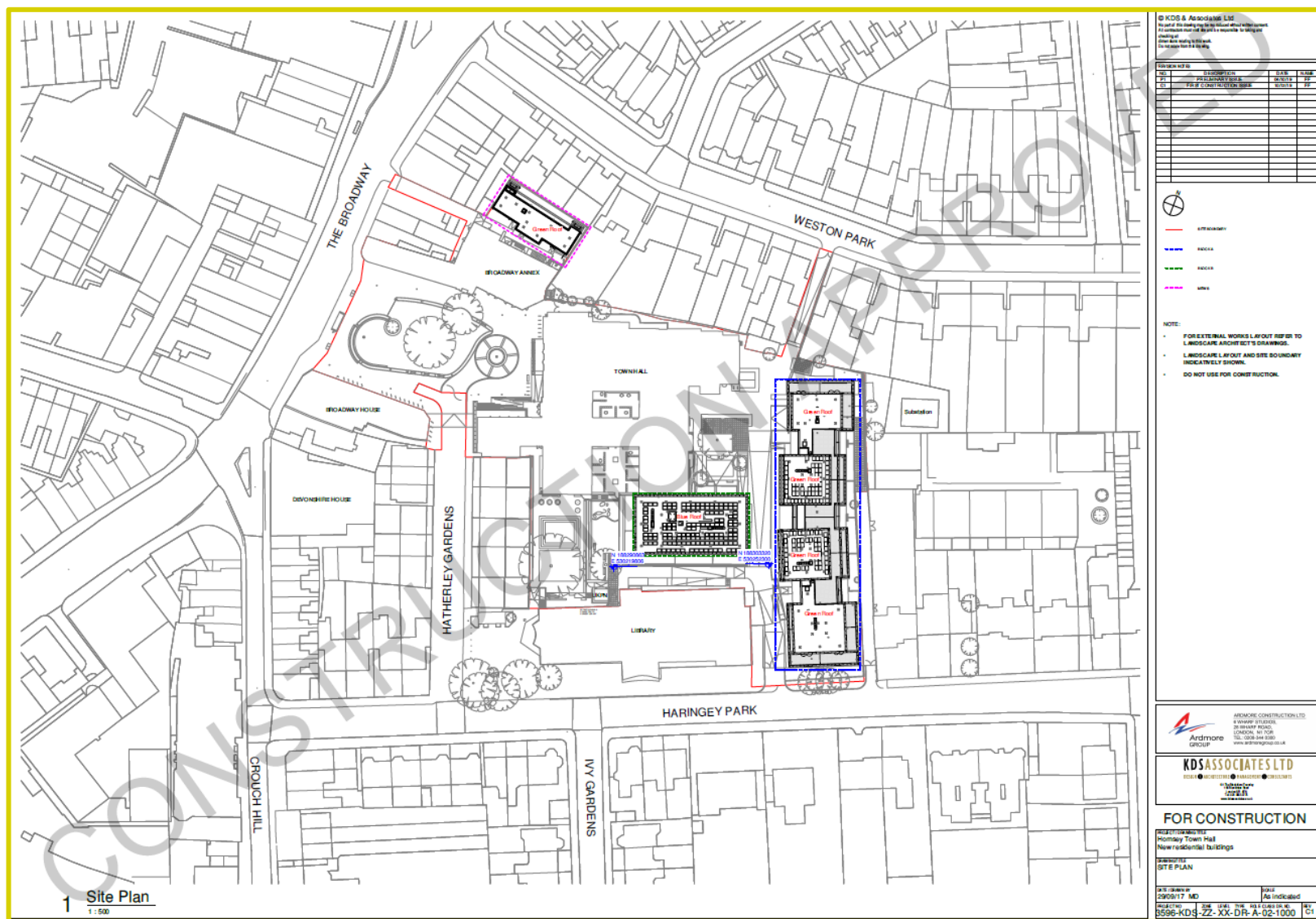
- 1.1.1. Pace Consult Ltd has been commissioned by Ardmore Construction Ltd to provide an assessment of noise levels in residential external areas at the Hornsey Town Hall development.
- 1.1.2. It is understood that the assessment is required in order to demonstrate compliance with the HQM credit 03, for noise levels in external areas.
- 1.1.3. The development is located in Crouch End, London on Hatherley Gardens, N8 9JJ.
- 1.1.4. The development consists of the refurbishment of the existing Hornsey Town Hall building into variety of uses (cinema, events hall, hotel) plus several new-build and refurbished residential blocks.
- 1.1.5. The development is now significantly progressed, with all residential blocks understood to be handed over.
- 1.1.6. The figures overleaf show the site prior to development and the as built site plan.

Figure 1: Site layout prior to development (extracted from Sandy Brown report 17119-R02-C 'Hornsey Town Hall, London – Planning Noise & Vibration Report 20th July 2017



Figure 1 Site map (courtesy of Google Earth Pro)

Figure 2: Construction site plan.



2. Assessment Criteria

2.1.1. The relevant HQM assessment criteria are shown below.

Figure 3: HQM assessment criteria for credit 3

crit03: The noise levels of external functional spaces do not exceed the requirements in Table 11.02 in accordance with the methodology section.

Table 11.02. Noise levels of external functional space

Time of day	Credits	Requirements $L_{Aeq,T}$
Day (07:00 – 23:00)	1	55dB
Day (07:00 – 23:00)	2	50dB

External noise levels

For measurements of noise in external functional spaces, the following procedures should be used:

1. Generally the measurements of external noise should be undertaken by a SQA. However, it may be convenient to do this at the same time as other testing such as pre-completion sound insulation testing required for HQM or regulatory purposes. In this case the measurements may be verified by the SQA if they are made by others.
2. Sufficient measurements should be made in order to determine a reasonable average for the external functional space. The number of measurement points should be determined by the SQA and take account of the general useable space.
3. It may not be necessary to measure the noise in every external functional space; in this case representative sampling as defined by the SQA would be appropriate.
4. Noise from environmental sources (e.g. traffic noise) should be included and also any mechanical or electrical plant associated with the dwelling or the neighbouring properties such as the external units of a heat pump. Any plant should be running at normal operating duty.
5. Measurements need not be made over the full day (07:00 – 23:00hours) if a shorter measurement period can be used. In this case, measurements should be made when external noise levels are representative of normal conditions throughout the period(s).
6. Measurement periods of less than 30 minutes may give representative values for external noise levels and may be utilized where this is the case. However measurement periods shorter than 5 minutes should not be used. The actual duration of measurement shall be determined by the SQA and detailed within the measurement report.
7. If existing external noise level data are available, then calculations by a SQA may also be also used to demonstrate compliance with the criteria. External data may take the form of existing noise survey data or local noise modelling/mapping. If this approach is used then the SQA must take into account any new noise sources introduced as part of the development or associated with the dwelling itself and outline the modelling/calculation basis within their report.
8. Where noisy activities in the vicinity are occurring that would not be expected to be present when the home is occupied e.g. construction activities then the measurements should be made in the absence of the noise source. This may mean that the activity is temporarily suspended for the testing, or the testing is done when the activity is not taking place.
9. Where measurements of environmental noise were required as part of the planning process, the noise levels within external functional spaces can be calculated by a SQA. Full account must be taken of any new sources introduced as part of the development i.e. mechanical or electrical plant that have the potential to increase noise levels. The report detailing the assessment of external noise should detail the results of the previous survey and the calculation methods used.
10. The ANC Green Book: Environmental Noise Measurement Guide and BS 7445² are sources of available good practice and relevant definitions for the measurement of external noise.

3. Baseline Noise Survey

- 3.1.1. A baseline noise survey was previously completed for the development. This was carried out by Sandy Brown, & detailed in report 17119-R02-C 'Hornsey Town Hall, London – Planning Noise & Vibration Report 20th July 2017
- 3.1.2. The results of the baseline noise survey, extracted from this report are included below. The measurement positions correspond to the labels in figure 1 of this report.

Figure 4: Unattended measurement position 1 results.

3.1.5 Location 1

The day, evening and night time ambient noise levels measured during the unattended survey at location 1 are presented in Table 1. Measurements are facade measurements.

Table 1 Ambient noise levels measured during the survey at location 1

Date	Daytime (07:00 – 19:00)	Evening (19:00 – 23:00)	Night (23:00 – 07:00)
	$L_{Aeq,12h}$ (dB)	$L_{Aeq,4h}$ (dB)	$L_{Aeq,8h}$ (dB)
Wed 21 June 17	50*	49	46
Thu 22 June 17	52	50	48
Fri 23 June 17	50	49	47
Sat 24 June 17	51	47	53
Sun 25 June 17	50	48	50
Mon 26 June 17	54*	-	-
Weekday average	51	50	48
Weekend average	50	48	51

* Measurement not made over full period due to monitoring start and end time (the measurement on 21 June 17 was over 2 hours, and on 26 June 17 over 8 hours 15 minutes); not included in the average

Figure 5: Unattended measurement position 2 results

3.1.6 Location 2

The day, evening and night time ambient noise levels measured during the unattended survey at location 2 are presented in Table 3. Measurements are facade measurements.

Table 3 Ambient noise levels measured during the survey at location 2

Date	Daytime (07:00 – 23:00)	Evening (19:00 – 23:00)	Night (23:00 – 07:00)
	$L_{Aeq,12h}$ (dB)	$L_{Aeq,4h}$ (dB)	$L_{Aeq,8h}$ (dB)
Wed 21 June 17	58*	57	54
Thu 22 June 17	59	59	55
Fri 23 June 17	60	61	54
Sat 24 June 17	58	57	54
Sun 25 June 17	59	56	53
Mon 26 June 17	58*	-	-
Weekday average	59	60	54
Weekend average	59	56	54

* Measurement not made over full period due to monitoring start and end time (the measurement on 21 June 17 was over 2 hours, and on 26 June 17 over 8 hours 15 minutes); not included in the average

Figure 6: Attended measurement position results.

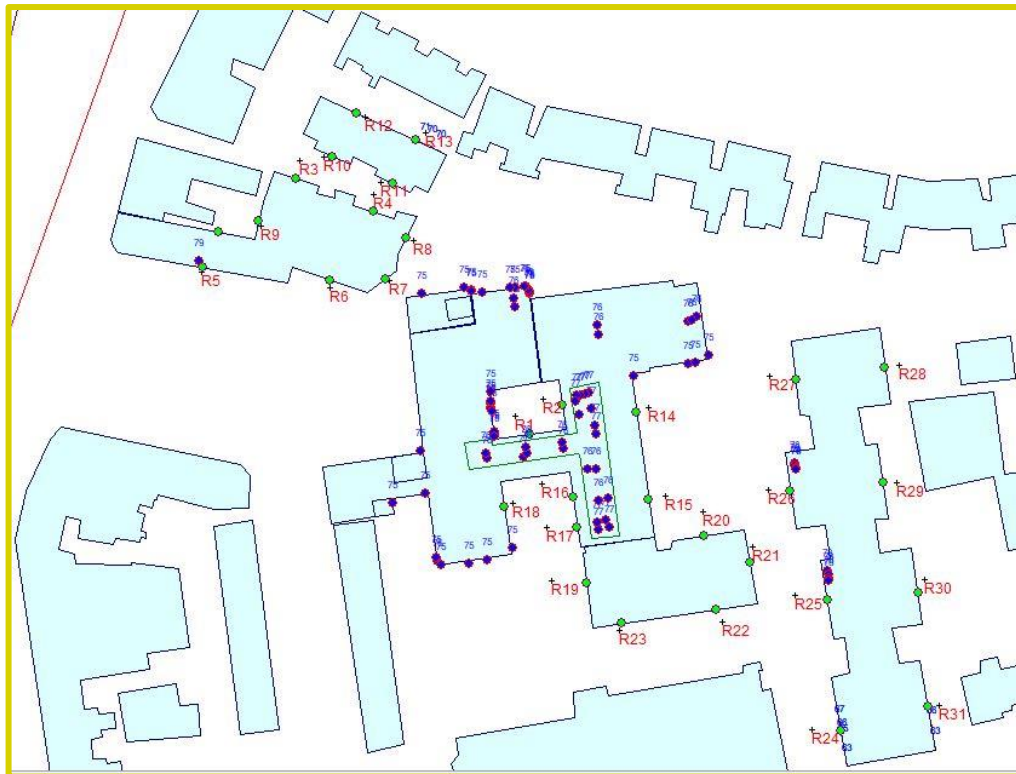
Table 5 Sound pressure levels from attended measurements

Position	Start time	Sound pressure levels (dB)			Noise sources
		$L_{Aeq,15min}$	$L_{AFmax,15min}$	$L_{A90,15min}$	
A	12:30	49	59	37	Aircraft noise
B	12:45	49	61	39	Water feature
C	13:15	63	79	52	Road traffic noise
D	13:30	54	65	42	Road traffic noise
A	14:00	55	68	39	Aircraft noise
B	14:15	54	66	39	Cars in nearby carpark
C	14:45	68	84	51	Road traffic noise (including an ambulance)
D	15:00	50	60	42	Road traffic noise

4. Assessment of Noise Levels in External Areas

- 4.1.1. Pace Consult has previously completed 3D acoustic modelling of the site, as part of the MEP noise impact assessment for Planning & BREEAM POL 05.
- 4.1.2. This is detailed in report PC-18-0326-RP1-RevB. This report includes the calculated noise levels across the site from all new items of MEP equipment.
- 4.1.3. The following figure shows the distribution of receiver locations across the site.

Figure 7: Assessment receiver locations



- 4.1.4. For clarity the predicted noise levels across the site from MEP equipment only are shown in the table below. The receivers are listed in descending order of the highest calculated noise levels.

Figure 8: Plant only calculated noise levels

Receiver	Fl	LrD dB(A)
R24 New Build Block A	GF	42.1
R20 New Build Block B	F4	40.3
R1 Link Building	F1	38.1
R20 New Build Block B	F3	38
R1 Link Building	GF	37.9
R1 Link Building	F2	37.6
R24 New Build Block A	F1	37.1
R21 New Build Block B	F4	37
R17 Town Hall	F2	36.7
R20 New Build Block B	F2	36
R27 New Build Block A	F4	35.9
R2 HTH East Wing	F2	35.9
R21 New Build Block B	F3	35.7
R26 New Build Block A	F4	34.9
R18 Lower ground floor only Town Hall	F2	34.7
R21 New Build Block B	F2	34.7
R2 HTH East Wing	F1	34.6
R2 HTH East Wing	GF	34
R31 New Build Block A	GF	33.9
R17 Town Hall	F1	33.9
R16 Town Hall	F2	33.7
R15 Town Hall	F2	33.5
R27 New Build Block A	F3	33.5
R24 New Build Block A	F2	33.4
R26 New Build Block A	F3	33.3
R19 New Build Block B	F4	32.9
R18 Lower ground floor only Town Hall	F1	32.7
R14 Town Hall	F2	32.4
R15 Town Hall	F1	32.2
R26 New Build Block A	F2	31.9
R27 New Build Block A	F2	31.8
R16 Town Hall	F1	31.7
R17 Town Hall	GF	31.6
R14 Town Hall	F1	31.6
R31 New Build Block A	F1	31.5
R18 Lower ground floor only Town Hall	GF	31.4
R21 New Build Block B	F1	31.2
R20 New Build Block B	F1	31.1
R24 New Build Block A	F3	31
R26 New Build Block A	F1	30.8
R15 Town Hall	GF	30.5
R14 Town Hall	GF	30.4
R27 New Build Block A	F1	30.4
R16 Town Hall	GF	30
R26 New Build Block A	GF	29.8
R21 New Build Block B	GF	29.7
R25 New Build Block A	F4	29.6
R20 New Build Block B	GF	29.5
R24 New Build Block A	F4	29.4
R19 New Build Block B	F3	29.3
R27 New Build Block A	GF	29.3
R19 New Build Block B	F2	28.8
R31 New Build Block A	F2	28.7
R19 New Build Block B	F1	28.1
R5 Broadway Annex	F2	27.6
R19 New Build Block B	GF	27.2
R31 New Build Block A	F3	26.9
R25 New Build Block A	F3	26.2
R22 New Build Block B	F4	25.7
R23 New Build Block B	F4	25.6
R22 New Build Block B	F3	25.5
R23 New Build Block B	F3	25.3
R23 New Build Block B	F2	25.1
R31 New Build Block A	F4	25.1
R23 New Build Block B	F1	24.8
R22 New Build Block B	F2	24.6
R23 New Build Block B	GF	24.5
R8 Broadway Annex	F2	24.4
R7 Broadway Annex	F2	24.2
R25 New Build Block A	F2	24
R6 Broadway Annex	F2	24
R5 Broadway Annex	F1	23.7
R11 Residential Mews Houses	F2	23.4
R22 New Build Block B	F1	23.1
R22 New Build Block B	GF	22.9
R25 New Build Block A	F1	22.6
R10 Residential Mews Houses	F2	22.5
R25 New Build Block A	GF	21.7
R8 Broadway Annex	F1	21.4
R5 Broadway Annex	GF	21.2
R11 Residential Mews Houses	F1	20.9
R6 Broadway Annex	F1	20.8
R13 Residential Mews Houses	F2	20.7
R7 Broadway Annex	F1	20.6
R29 New Build Block A	F4	20.1
R13 Residential Mews Houses	GF	19.8
R8 Broadway Annex	GF	19.6
R12 Residential Mews Houses	F2	19.4
R29 New Build Block A	F3	19.4
R30 New Build Block A	F4	19.3
R11 Residential Mews Houses	GF	19
R29 New Build Block A	F2	19
R10 Residential Mews Houses	F1	18.9
R9 Broadway Annex	F2	18.8
R7 Broadway Annex	GF	18.8
R29 New Build Block A	F1	18.8
R29 New Build Block A	GF	18.5
R6 Broadway Annex	GF	18.3
R30 New Build Block A	F3	18.1
R28 New Build Block A	F4	17.8
R30 New Build Block A	F2	17.8
R7 Broadway Annex	F2	17.6
R30 New Build Block A	F1	17.5
R30 New Build Block A	GF	17.3
R28 New Build Block A	F3	17.2
R28 New Build Block A	F2	17
R28 New Build Block A	F1	16.9
R28 New Build Block A	GF	16.8
R10 Residential Mews Houses	GF	16.5
R7 Broadway Annex	F1	16.1
R4 Broadway Annex	F2	16
R13 Residential Mews Houses	F1	15.6
R9 Broadway Annex	F1	15.3
R4 Broadway Annex	F1	15.3
R4 Broadway Annex	GF	15.1
R7 Broadway Annex	GF	15.1
R3 Broadway Annex	F2	14.4
R9 Broadway Annex	GF	14.4
R3 Broadway Annex	F1	13.7
R3 Broadway Annex	GF	13.5
R12 Residential Mews Houses	F1	13.5
R12 Residential Mews Houses	GF	13

4.1.5. It is noted that the HQM Credit 03 Criteria states that:

4. Noise from environmental sources (e.g. traffic noise) should be included and also any mechanical or electrical plant associated with the dwelling or the neighbouring properties such as the external units of a heat pump. Any plant should be running at normal operating duty.

4.1.6. In order to include the noise from environmental sources, the main road traffic noise source has been entered into the SoundPLAN noise model and calibrated using the baseline noise survey data measured by Sandy Brown.

4.1.7. The predicted noise levels across the site from both road traffic & MEP equipment are shown in the table below.

Figure 9: Plant & environmental noise calculated noise levels.

Receiver	FI	LrD dB(A)
R5 Broadway Annex	GF	66.1
R5 Broadway Annex	F 1	66.1
R5 Broadway Annex	F 2	66
R6 Broadway Annex	GF	60.2
R6 Broadway Annex	F 1	60.2
R6 Broadway Annex	F 2	60.2
R3 Broadway Annex	F 2	56.8
R3 Broadway Annex	F 1	56.1
R3 Broadway Annex	GF	56
R10 Residential Mews Houses	F 2	53.7
R11 Residential Mews Houses	F 2	52.9
R11 Residential Mews Houses	F 1	52.5
R7 Broadway Annex	GF	52.5
R7 Broadway Annex	F 2	52.5
R7 Broadway Annex	F 1	52.4
R10 Residential Mews Houses	F 1	52.4
R10 Residential Mews Houses	GF	52.3
R11 Residential Mews Houses	GF	52.1
R12 Residential Mews Houses	F 2	47.4
R9 Broadway Annex	F 2	47.3
R9 Broadway Annex	F 1	46.5
R9 Broadway Annex	GF	46.4
R7 Broadway Annex	F 2	46.4
R7 Broadway Annex	GF	46.4
R7 Broadway Annex	F 1	46.3
R27 New Build Block A	F 4	46.1
R19 New Build Block B	F 4	45.7
R13 Residential Mews Houses	F 2	45.3
R4 Broadway Annex	F 2	44.9
R20 New Build Block B	F 4	44.5
R4 Broadway Annex	F 1	43.5
R4 Broadway Annex	GF	43.3
R12 Residential Mews Houses	F 1	42.9
R26 New Build Block A	F 4	42.7
R24 New Build Block A	GF	42.7
R12 Residential Mews Houses	GF	42.1
R13 Residential Mews Houses	F 1	41.4
R1 Link Building	F 2	41
R13 Residential Mews Houses	GF	41
R8 Broadway Annex	GF	40.8
R8 Broadway Annex	F 2	40.8
R19 New Build Block B	F 3	40.7
R8 Broadway Annex	F 1	40.7
R1 Link Building	GF	40.6
R20 New Build Block B	F 3	40.6
R1 Link Building	F 1	40.5
R2 HTH East Wing	F 2	40.5
R27 New Build Block A	F 3	40.5
R17 Town Hall	F 2	40
R26 New Build Block A	F 3	39.1
R18 Lower ground floor only Town Hall	F 2	38.9
R2 HTH East Wing	GF	38.9
R2 HTH East Wing	F 1	38.8
R24 New Build Block A	F 4	38.8
R20 New Build Block B	F 2	38.7
R21 New Build Block B	F 4	38.7
R16 Town Hall	F 2	38.6
R24 New Build Block A	F 1	38.6
R18 Lower ground floor only Town Hall	GF	38.3
R17 Town Hall	F 1	38.2
R18 Lower ground floor only Town Hall	F 1	38.2
R27 New Build Block A	F 2	38.2
R19 New Build Block B	F 2	38.1
R17 Town Hall	GF	38
R21 New Build Block B	F 3	37.8
R16 Town Hall	GF	37.7
R19 New Build Block B	GF	37.6
R24 New Build Block A	F 3	37.5
R16 Town Hall	F 1	37.5
R14 Town Hall	GF	37.4
R26 New Build Block A	F 2	37.4
R15 Town Hall	F 2	37.3
R19 New Build Block B	F 1	37.2
R15 Town Hall	GF	37.2
R21 New Build Block B	F 2	37.1
R14 Town Hall	F 2	37.1
R14 Town Hall	F 1	36.8
R20 New Build Block B	GF	36.8

R20 New Build Block B	GF	36.8
R15 Town Hall	F 1	36.8
R25 New Build Block A	F 4	36.7
R23 New Build Block B	GF	36.6
R27 New Build Block A	GF	36.6
R27 New Build Block A	F 1	36.6
R31 New Build Block A	GF	36.5
R26 New Build Block A	GF	36.4
R20 New Build Block B	F 1	36.3
R24 New Build Block A	F 2	36.3
R26 New Build Block A	F 1	36.2
R21 New Build Block B	GF	36.1
R23 New Build Block B	F 4	35.9
R23 New Build Block B	F 3	35.7
R23 New Build Block B	F 2	35.7
R23 New Build Block B	F 1	35.7
R22 New Build Block B	GF	35.6
R21 New Build Block B	F 1	35.5
R25 New Build Block A	F 3	34.8
R25 New Build Block A	GF	34.8
R31 New Build Block A	F 1	34.8
R22 New Build Block B	F 4	34.7
R22 New Build Block B	F 3	34.5
R22 New Build Block B	F 2	34.4
R22 New Build Block B	F 1	34.3
R25 New Build Block A	F 2	33.9
R29 New Build Block A	GF	33.9
R28 New Build Block A	GF	33.9
R25 New Build Block A	F 1	33.7
R30 New Build Block A	GF	33.5
R28 New Build Block A	F 4	33.2
R31 New Build Block A	F 2	33.1
R28 New Build Block A	F 1	33.1
R28 New Build Block A	F 3	33
R28 New Build Block A	F 2	33
R29 New Build Block A	F 1	32.7
R29 New Build Block A	F 4	32.6
R31 New Build Block A	F 3	32.5
R29 New Build Block A	F 3	32.4
R29 New Build Block A	F 2	32.4
R30 New Build Block A	F 1	32.4
R31 New Build Block A	F 4	32.2
R30 New Build Block A	F 4	32
R30 New Build Block A	F 3	31.8
R30 New Build Block A	F 2	31.8

4.1.8. As can be seen, the highest expected noise levels in external amenity areas are:

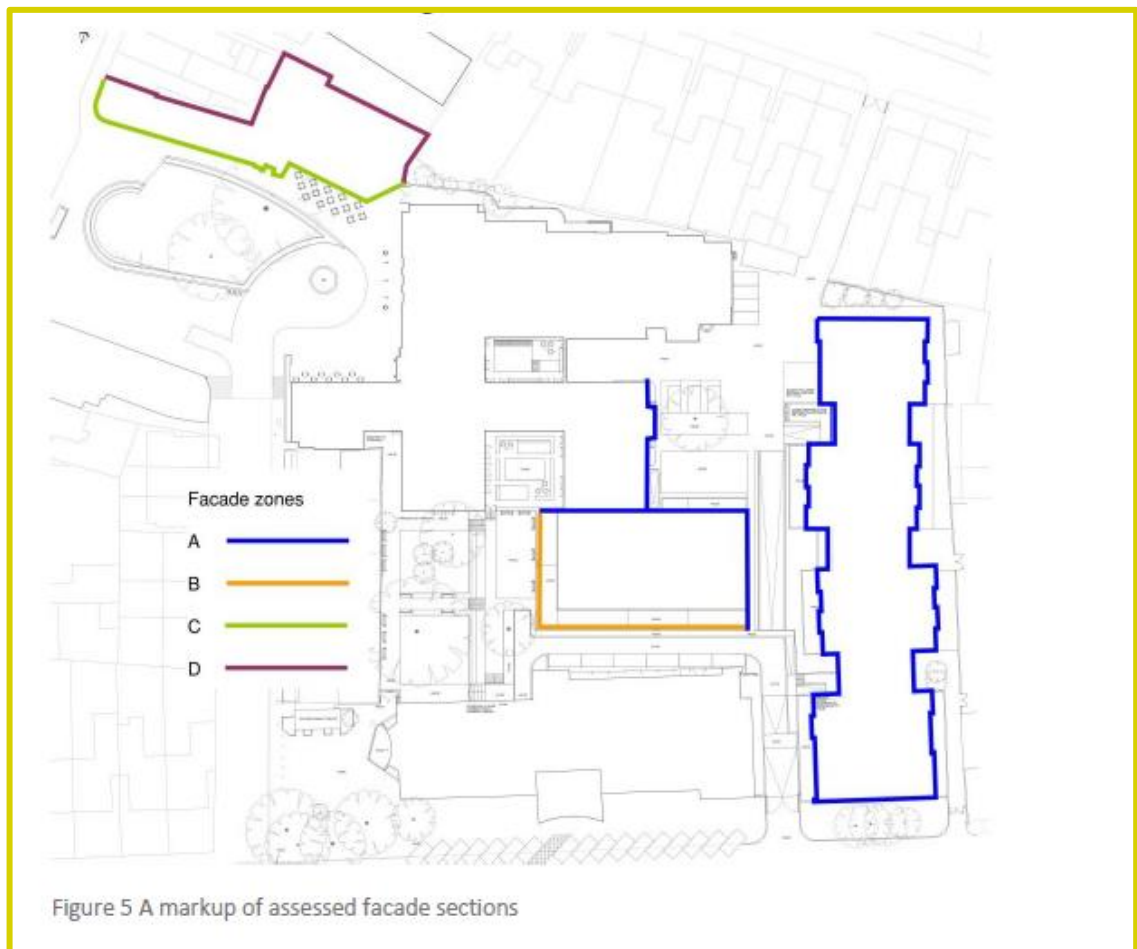
- Block A 46 dB $L_{Aeq,T}$.
- Block B 46 dB $L_{Aeq,T}$.
- Mews 54 dB $L_{Aeq,T}$.
- Broadway Annex 66 dB $L_{Aeq,T}$.

4.1.9. This is corroborated by the predicted façade noise levels as stated in the Sandy Brown report, as shown below.

Figure 10: Predicted façade noise levels from Sandy Brown report.

Table 9 Highest predicted external noise levels at the assigned sections of facade		
Facade section	Highest predicted external noise level $L_{Aeq,T}$ (dB)	
	Day (07:00 – 23:00)	Night (23:00 – 07:00)
A	50	51
B	51	52
C	60	55
D	51	46

Figure 11: Façade mark up from Sandy Brown report.



4.1.10. As such, the assessment indicates the following outcomes for the HQM credit for external amenity areas would be expected:

- Block A – 2 Credits
- Block B – 2 Credits
- Mews – 1 Credit
- Broadway Annex – No Credits

5. Conclusion

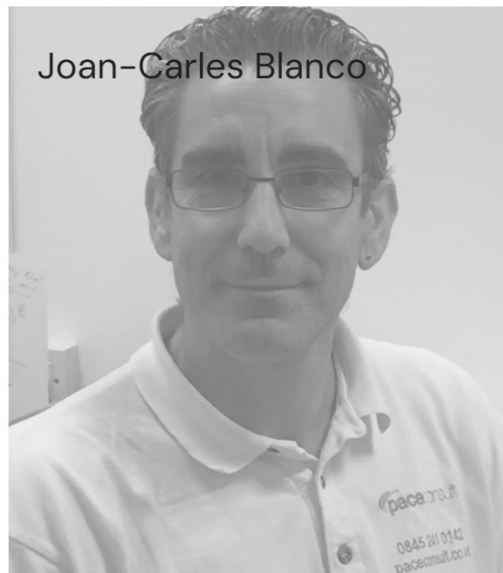
- 5.1.1. Pace Consult has completed modelling and calculations of the expected noise levels in external amenity areas across the site at the Hornsey Town Hall development.
- 5.1.2. The calculations are based on baseline noise survey data previously measured by Sandy Brown as part of the project planning application.
- 5.1.3. The calculations indicate that 2 credits can be awarded for the new build residential block s A & B, 1 credit for the Mews apartments and no credits for the Broadway Annex apartments.

End of Report

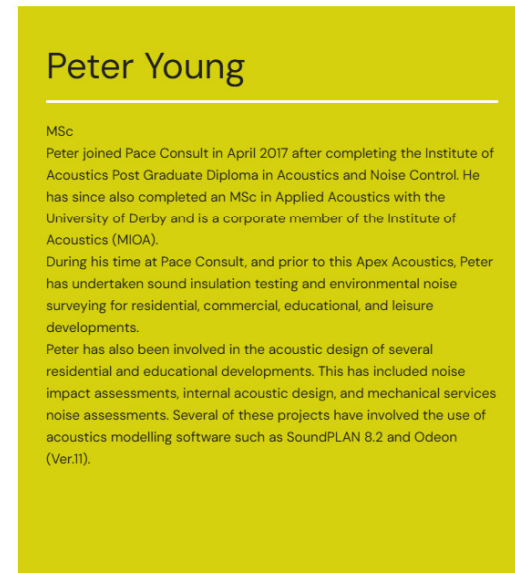
Meet The Team



Martin Jones



Joan-Carles Blanco



Peter Young

MSc

Peter joined Pace Consult in April 2017 after completing the Institute of Acoustics Post Graduate Diploma in Acoustics and Noise Control. He has since also completed an MSc in Applied Acoustics with the University of Derby and is a corporate member of the Institute of Acoustics (MIOA).

During his time at Pace Consult, and prior to this Apex Acoustics, Peter has undertaken sound insulation testing and environmental noise surveying for residential, commercial, educational, and leisure developments.

Peter has also been involved in the acoustic design of several residential and educational developments. This has included noise impact assessments, internal acoustic design, and mechanical services noise assessments. Several of these projects have involved the use of acoustics modelling software such as SoundPLAN 8.2 and Odeon (Ver.11).