

Chapter 7: Noise and Vibration

NOISE AND VIBRATION	
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SUPPORTING APPENDIX	ES Volume 3, Appendix: Noise and Vibration Annex 1: Glossary of Acoustic Terms; Annex 2: Planning Policy; Annex 3: Noise and Vibration Survey Report; Annex 4: Construction Plant Assumptions; and Annex 5: Hale Road Properties 11, 13, 15 and 17 Assessment.
KEY CONSIDERATIONS	The following are the key acoustic considerations which have been assessed in this ES chapter: - Construction noise - airborne noise from machinery and the works themselves; - Construction vibration - ground-borne vibration from machinery and the works themselves; - Construction traffic - noise from construction vehicles; - Cumulative assessments during construction works.
CONSULTATION	An EIA Scoping Opinion Request Report was submitted to the LBH on 27 July 2026 (hereafter referred to as the 'EIA Scoping Report') to request an EIA Scoping Opinion from the LBH and statutory consultees regarding the scope of the EIA. The EIA Scoping Report is provided in ES Volume 3, Appendix: EIA Methodology – Annex 1 . At the time of writing, an EIA Scoping Opinion has not yet been received.

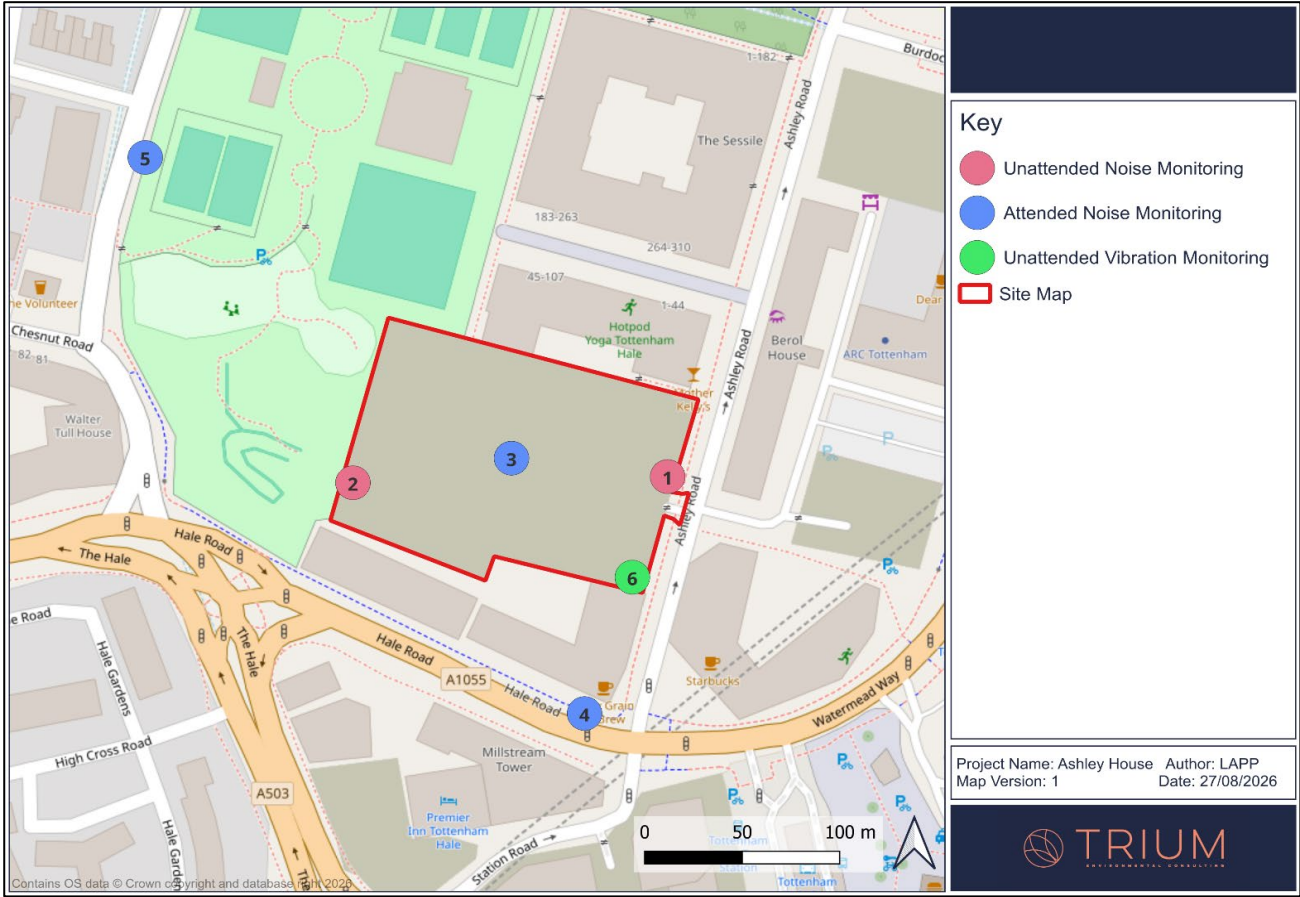
ASSESSMENT METHODOLOGY

Defining the Baseline

- 7.1
- Baseline noise surveys were undertaken at the site between 7 July and 13 July 2026 to establish and quantify the prevailing noise and vibration levels incident on the site and at key receptor locations surrounding the site (see section 'Receptors and Receptor Sensitivity' of this ES chapter).
- 7.2
- The noise monitoring comprised continuous long-term unattended monitoring at two positions on the site and three attended short-term noise monitoring positions. The long-term unattended monitoring was completed across a seven-day period.
- 7.3
- The vibration monitoring comprised one long term unattended monitoring at one position on the site across a seven-day period.
- 7.4
- The measurement positions are illustrated in Figure 7.1 and are as follows:
 - Unattended noise measurements were completed at positions 1 and 2;
 - Attended noise measurements were completed at positions 3, 4 and 5; and
 - Unattended vibration measurements were completed at position 6.
- 7.5
- Noise surveys have been undertaken in line with the guidance contained in BS 7445:2003¹ and BS 4142:2014². These surveys capture the full range of typical acoustic conditions across the site, ensuring the data provides a representative and conservative baseline for evaluating potential impacts on noise-sensitive receptors.

1 British Standards (BS) 7445:2003 Description and measurement of environmental noise, December 2003
2 British Standards (BS) 4142:2014+A1:2019 Methods for rating and assessing industrial and commercial sound, June 2019

Figure 7.1 The Site (Redline) and Measurement Positions



Evolution of the Baseline

- 7.6
- The EIA Regulations³ require that the likely evolution of the baseline is considered in the event that the Proposed Development were not to come forward. In other words, the likely effect on the existing baseline conditions if the relevant cumulative schemes (as listed in **ES Volume 1, Chapter 2: EIA Methodology**) were to come forward in the absence of the Proposed Development.
- 7.7
- Potential changes to the existing road traffic flows, local businesses and railway lines are considered to have the biggest potential to affect the future baseline at the site and the surrounding receptors.
- 7.8
- The noise generated by road traffic from Hale Road and Watermead Way is notable across the site, with local roads also contributing to the noise environment. Given the high existing sound levels there would need to be a significant change to traffic systems (e.g. one way system or other significant traffic measures) for changes in the baseline to occur.
- 7.9
- Regarding local businesses, potential sources including Mother Kelly's bar are well established operations and considerable changes to their operations that would increase noise levels would be unlikely. Any such changes would also likely be relevant to planning or licensing controls that would consider the noise impact on the surrounding area. It is therefore considered that increased noise levels from the local businesses are not likely.

3 Town and Country Planning and Infrastructure Planning (Environmental Impact Assessment) (Amendment) Regulations, 2020

Impact Assessment Methodology

- 7.10** The study area for the assessment is defined by the location of surrounding receptors and the end use of the Proposed Development. Receptors are outlined within the 'Receptors and Receptor Sensitivity' section of this ES chapter.
- 7.11** This section presents the methodology used to assess each type of noise and vibration impact, in terms of the Proposed Development. This section includes details of relevant standards and guidance, along with the types of data and analysis carried out.
- 7.12** The assessment considers the following types of noise and vibration:
- Construction noise – airborne noise from machinery and the works themselves;
 - Construction vibration – ground-borne vibration from machinery and the works themselves; and
 - Construction traffic – noise from construction vehicles.
- 7.13** The traffic flows for all links are included in **ES Volume 1, Chapter 5: Enabling and Construction Works** and have been applied in the noise assessments.

Enabling and Construction Works

- 7.14** The enabling and construction programme is anticipated to be undertaken over the course of approximately 29 months. The noise and vibration assessment has been undertaken in line with the details of the proposed enabling and construction activities, as set out in **ES Volume 1, Chapter 5: Enabling and Construction Works** and **ES Volume 3, Appendix: Noise and Vibration – Annex 4**.
- 7.15** Noise egress has been calculated based on the methodology outlined in BS 5228-1:2009+A1:2014. Where specific sound power levels have not been provided, reference has been made to the operational noise levels for various items of plant that are included within this standard. The operational plant noise levels have been used to determine a representative equivalent continuous sound level (L_{Aeq}) associated with the construction activity. The construction plant noise assumptions are set out in **ES Volume 3, Appendix: Noise and Vibration – Annex 4**.
- 7.16** A 3D noise model has been created to determine the predicted noise level associated with the enabling and construction activities at the surrounding noise sensitive receptors.
- 7.17** Noise levels associated with the enabling and construction activities of the Proposed Development have been predicted at each of the noise sensitive locations and these levels have been compared with the guidelines highlighted in BS 5228-1, to determine the magnitude of impact. This has been referenced against the sensitivity of each receptor to determine the scale of effect.
- 7.18** The construction noise assessment has been undertaken for three representative assessment periods covering the key stages of the works: enabling works (across the site), substructure works (including piling) and superstructure works, which are considered the highest impact activities. For each period, construction noise levels have been modelled at the identified receptors based on the activities expected to occur during that stage, with impacts assessed on a pre-mitigation basis.
- 7.19** No mitigation has been included in the modelling, i.e. no screening or site hoardings. This represents a worst-case where the site is entirely open. The duration of the impacts is likely to be reduced or only occur for specific periods.
- 7.20** The construction assessment focuses on the worst-case activities, i.e. those generating the highest levels of noise and vibration. The construction activities that do not generate high levels of sound or vibration, such as envelope installation, internal fit-out and external landscaping have not been evaluated.

- 7.21** For simplicity, the modelling of the noise emissions from the construction works has been assumed to be located within the centre of the phase (i.e. as a single point source). This presents a reasonable assumption whereby plant will be mobile. Whilst it is possible that equipment may operate at shorter distances to a receptor, this would only occur within the short term.
- 7.22** While the phasing plan will introduce Block B while works to Block A are still ongoing, the programme indicates that the works to Block A during this period will be limited to low impact activities such as envelope installation and fit-out works. As such, these works have not been modelled and Block B is not treated as an introduced sensitive receptor in the modelling assessments.
- 7.23** The construction assumptions applied are a reasonable worst-case given they are based on simultaneous construction activities across two separate blocks and include high proportion of operating time for construction plant. No mitigation measures, such as perimeter hoardings, have been assumed in the modelling for the purposes of establishing a worst-case assessment and predicted noise levels.

Assumptions and Limitations

Enabling and Construction Works

- 7.24** It is assumed that Contractors will comply with all legislation relevant to the control of noise from construction works including:
- The Control of Pollution Act 1974 (COPA) with particular reference to part III⁴;
 - The Environmental Protection Act 1990⁵;
 - The Control of Noise at Work Regulations 2005⁶; and
 - The Health and Safety at Work Act 1974⁷.
- 7.25** The predictions of potential enabling and construction noise effects have assumed that the construction plant that is compliant with the sound levels published in BS 5228. The equipment and operating hours assumed for the assessments contained herein are provided in **ES Volume 3, Appendix: Noise and Vibration – Annex 4**.
- 7.26** The eventual selected equipment and precise enabling and construction works methodology would be dependent on the Contractor selected for the works. Conservative, worst-case assumptions have therefore been made about operations and activities, and the associated plant and equipment to be used, and site access locations as presented in **ES Volume 1, Chapter 5: Enabling and Construction Works**. The predicted construction noise and vibration levels represent an upper estimate or worst-case scenario of emissions from the site during the works.
- 7.27** The emphasis of the construction assessment is on the noisiest phases of work, which are likely to arise from enabling, substructure (including piling) and superstructure works. **ES Volume 1, Chapter 5: Enabling and Construction Works** describes these works as being concurrent between the two buildings. During the occupation of Block B, works at Block A will be limited to low impact activities, as described in paragraph 7.22.
- 7.28** The equipment and operating hours assumed for the assessments contained herein are provided in **ES Volume 3, Appendix: Noise and Vibration – Annex 4**. Construction works are not considered after the Proposed Development is fully completed and operational.

Enabling and Construction Works Traffic

- 7.29** Designated construction traffic routes will be used for deliveries of materials and the removal of waste. Routes to and from the site for construction vehicles will be agreed with LBH prior to commencement of works, with the strategic road network used as far as practicable.

⁴ Control of the Pollution Act 1974 (COPA).

⁵ Environmental Protection Act 1990.

⁶ The Control of Noise at Work Regulations 2005.

⁷ The Health and Safety at Work Act 1974.

- 7.30** Construction vehicles will access the site from Ashley Road to the east, via a dedicated marshalled vehicle entrance. Vehicles will approach the site from the A10 (High Road) via Monument Way and The Hale, turning left from Hale Road onto Ashley Road South. Vehicles leaving the site will be routed via Burdock Road and Watermead Way to rejoin the A10, with traffic directed north along Watermead Way wherever possible to minimise movements through the Tottenham Hale district centre.
- 7.31** To minimise the likelihood of congestion during construction, strict monitoring and control of vehicles entering and exiting the site will be implemented. Deliveries will be planned and managed using a booking system, with delivery times agreed with Contractor(s) and delivery schedules used to regulate arrivals and avoid queuing and bottlenecks. Secure access points with wheel cleaning facilities will be established when excavation and groundworks are taking place, and pedestrian access arrangements for operatives will be provided separately from main vehicular access points.
- 7.32** The anticipated number of construction vehicles has been reviewed over the duration of the enabling and construction programme. The peak construction traffic demand is expected between Q4 2028 and Q1 2029, with up to 36 two-way vehicle trips per typical construction day. This period therefore forms the basis for the assessment of noise impacts associated with construction traffic.
- 7.33** The operational traffic evaluations have been limited to the following roads:
- Ashley Road;
 - Ferry Lane;
 - Monument Way;
 - High Road South; and
 - High Road North.
- 7.34** The other roads have been discounted as they are sufficiently far from the site and would not increase vehicle flows by 20% (i.e. the threshold in DMRB for a 1dB change).
- 7.35** The road traffic speeds for all scenarios and all links have been set to the respective speed limits of those roads.

Methodology for Defining Effects

Receptors and Receptor Sensitivity

- 7.36** Table 7.1 summarises the sensitivity of various receptors, including use types relevant to the Proposed Development, and other uses for context, which is based on professional experience and industry standards.

Table 7.1 Receptor Sensitivity

Sensitivity of Receptor	Description
High	Residential, Hotel, Public House with Residential
Medium	Employment Centre, Vocational, Healthcare, Office, Education
Low	None listed

- 7.37** Although there are other noise sensitive receptors located at greater distance, it is considered that controlling noise egress at the closest properties will result in acceptable noise levels at all other noise sensitive premises.
- 7.38** In any instances where the noise impact cannot be mitigated to an acceptable level at the nearest noise sensitive receptors, consideration will be given to the impact on receptors at greater separation distances.

8 Assessed at the façade most affected by construction activity from the Proposed Development when no construction activity is present

Magnitude of Impact

Enabling and Construction Noise

- 7.39** BS 5228 provides practical information on enabling and construction works noise and vibration reduction measures and promotes a ‘Best Practicable Means’ approach to control noise and vibration. The calculation method provided in BS 5228 is based on the number and types of equipment operating, their associated Sound Power Level (SPL), and the distance to receptors, together with the effects of any screening.
- 7.40** Magnitudes of impact for construction plant noise are based on the ‘ABC’ methodology set out in BS 5228-1, which aligns thresholds of significant construction noise with respect to the existing ambient noise levels. These thresholds are presented in Table 7.2 and represent noise levels measured at the façade of each building.

Table 7.2 Enabling and construction works Noise – Magnitude of Impact

Magnitude of Impact	Daytime Construction Noise Levels ⁸
Very Low	Less than $L_{Aeq, 10h}$ 60 dB
Low	Between $L_{Aeq, 10h}$ 60-65 dB
Medium	Between $L_{Aeq, 10h}$ 66-70 dB
High	Greater than $L_{Aeq, 10h}$ 70 dB

Enabling and Construction Vibration

- 7.41** BS 5228-2⁹ Table B.1 provides guidance on the perception of vibration within occupied buildings. This provides a simple method of assessing annoyance associated with vibration.
- 7.42** Table 7.3 draws on this guidance to provide details of Peak Particle Velocity (PPV) levels and their potential effect on humans. The table provides a semantic scale for description of enabling and construction works vibration impacts on human receptors.

Table 7.3 Peak Particle Velocity (PPV) Levels – Impact on Humans (Annoyance)

Magnitude of Impact Category	Peak Particle Velocity Level	Description
Very Low	<0.30 mm/s	Vibration might be just perceptible in the most sensitive situations for most vibration frequencies associated with construction. At lower frequencies, people are less sensitive to vibration.
Low	0.30 – 1.0 mm/s	Vibration might be just perceptible in residential environments.
Medium	1.0 – 10.0 mm/s	It is likely that vibration of this level in residential environments will cause complaint but can be tolerated if prior warning and explanation has been given to residents.
High	>10.0 mm/s	Vibration is likely to be intolerable for any more than a very brief exposure to this level.

- 7.43** Levels of vibration required for cosmetic damage are far higher than those that would result in an unacceptable impact in terms of annoyance and, as such, are not presented or assessed in this assessment.

Enabling and Construction Traffic Noise

⁹ British Standards (BS) 5228-2:2009+A1:2014 Code of practice for noise and vibration control on construction sites – Part 2: Vibration, February 2014.

- 7.44 The magnitude of impact criteria for enabling and construction road traffic noise have been derived by considering how short-term changes in noise levels can be categorised based on key benchmarks that relate to human perception of sound, and the criteria given in Table 3.54a of the DMRB.
- 7.45 The criteria in Table 7.4 have been adopted for assessing the impacts of enabling and construction traffic noise.

Table 7.4 Enabling and Construction Traffic Noise - Magnitude of Impact

Magnitude of Impact	Increase in Noise Level (dBA)	Description
Very Low	<1.0	Noise increase is unlikely to be discernible
Low	1.0-2.9	A slight increase in noise levels may be perceived in affected buildings and outdoor recreational areas
Medium	3.0-4.9	Increase in noise levels is likely to be noticeable in affected buildings and outdoor recreational areas
High	>5.0	Increase in noise levels is likely to be clearly perceptible and could have a significant effect on the continued use of a building

Defining the Effect

- 7.46 Table 7.5 details the scale of effects, when combining the sensitivity of the receptor and the magnitude of the impact, based on the IOA/IEMA ‘Guidelines for Noise Impact Assessment’.

Table 7.5 Scale of Effects

Sensitivity of Receptor	Magnitude of Impact			
	High	Medium	Low	Very Low
High	Major	Moderate	Minor	Negligible
Medium	Moderate	Minor	Negligible	Negligible
Low	Minor	Negligible	Negligible	Negligible

Nature

- 7.47 All noise and vibration effects are considered either adverse or negligible. Whilst beneficial noise effects can occur, this assumes an improvement from the baseline environment and in practice is unlikely when a new development is being introduced to the local environment.
- 7.48 An ‘adverse effect’ is considered anything that can cause a change in behaviour, attitude or changes the character of a place in a negative manner.

Geographic Extent of Effect

- 7.49 The geographic extent of the effect has been identified. At a spatial level, ‘site’ or ‘local’ effects are those affecting the site and neighbouring receptors, while effects upon receptors in Greater London beyond the vicinity of the site and its neighbours are at a ‘District’ level. Effects affecting the south of England are at a ‘regional’ level, whilst those which affect different parts of the country, are considered being at a ‘national’ level.

Effect Duration and Direct and Indirect Effects

- 7.50 For the purposes of the ES, effects that are generated as a result of the enabling and construction works (i.e. those that last for this set period of time) are classed as ‘temporary’ and either short or medium term. Short term effects are defined as effects which will occur for less than two months, and medium-term effects occur for longer than two months.

- 7.51 Noise and vibration effects are generally considered to be direct effects (i.e. resulting without any intervening factors).

Categorising Likely Significant Effects

- 7.52 Table 7.6 categorises the likely scale of effect in context of what would be experienced by the receptors. This is based on the IOA/IEMA guidelines and the Planning Practice Guidelines (PPG)¹⁰.
- 7.53 Table 7.6 also relates the scale of effect where adverse effects on health and quality of life can be detected. This follows guidance in the Noise Policy Statement for England (NPSE)¹¹, which introduces the terms Lowest Observed Adverse Effect Level (LOAEL) and Significant Observed Adverse Effect Level (SOAEL). The LOAEL is the level at which adverse effects on health and quality of life can be detected, with the SOAEL the level above which significant adverse effects on health and quality of life occur.

Table 7.6 Classification of Noise Effects Relative to LOAEL and SOAEL

Scale of Effect (Adverse)	Description of Effect	Exceeds SOAEL?	Exceeds LOAEL?	Scale of Effect Significant
Major	Disruptive, causes a material change in behaviour and/ or attitude. Potential for sleep disturbance. Quality of life diminished due to change in character of the area.	Yes	Yes	Yes
Moderate	Intrusive, noise can be heard and causes small changes in behaviour and/ or attitude. Potential for non-awakening sleep disturbance. Affects the character of an area such that there is a perceived change in the quality of life.	Yes	Yes	
Minor	Non-intrusive, can be heard but does not cause any change in behaviour or attitude. Can slightly affect the character of an area but not such that there is a perceived change in the quality of life.	No	Yes	No
Negligible	No discernible effect on the receptor	No	No	No

- 7.54 For all sources (including from enabling and construction works) any adverse effect resulting in Moderate/Major effects are generally considered significant. Negligible and Minor effects are not significant.

BASELINE CONDITIONS

Typical Noise Levels

- 7.55 The representative background, ambient and night time maximum sound levels during the unattended surveys are shown in Table 7.7, Table 7.8 and Table 7.9 respectively.

Table 7.7 Representative Background Sound Levels at Long Term Monitoring Locations

Position	Representative Free-Field Background Sound Levels $L_{A90,15min}$ (dB)	
	Day (07:00 to 23:00)	Night (23:00 to 07:00)
1	53	48
2	54	47

Table 7.8 Ambient Sound Levels at Long Term Monitoring Locations

Position	Free-Field Ambient Sound Levels $L_{Aeq,T}$ (dB)			
	Day (07:00 to 19:00)	Evening (19:00 to 23:00)	Night (23:00 to 07:00)	L_{DEN}
1	57	56	54	61
2	57	57	54	61

¹⁰ Department of Communities and Local Government (2018) Planning Practice Guidance.

¹¹ Department for Environment, Food and Rural Affairs, Noise Policy Statement for England (NPSE), March 2010.

Table 7.9 Night time Maximum Sound Levels (Range) at Long Term Monitoring Locations

Position	10 th Percentile, Night time Maximum Sound Levels $L_{AFMax, \tau}$ (dB)
	Night (23:00 to 07:00)
1	62 – 74
2	62 – 75

7.56 The representative recorded background sound levels and ambient noise during the attended survey are shown in Table 7.10 and Table 7.11 respectively.

Table 7.10 Representative Background Sound Levels at Short-Term Monitoring Locations

Position	Representative Free-Field Background Sound Levels $L_{A90,15min}$ (dB)
	Daytime (07:00 to 23:00)
3	51
4	64
5	51

Table 7.11 Ambient Sound Levels at Short-Term Monitoring Locations

Position	Free-Field Ambient Sound Levels $L_{Aeq,15mins}$ (dB)
	Daytime (07:00 to 23:00)
3	54
4	71
5	61

Vibration Monitoring

- 7.57 Vibration Dose Values (‘VDVs’) were measured at Position 6 where a long-term unattended vibration measurement was undertaken between 7 and 13 July 2026.
- 7.58 The vibration meter was located near to the south-east of the site, at the point of the site closest to an underground service tunnel used for Victoria line trains located approximately 30 m from the site boundary.
- 7.59 Vibration measurement results are presented in Table 7.12 and Table 7.13 respectively.

Table 7.12 Vibration Measurements Summary - Daytime

Measurement Position	Daytime (07:00 – 23:00) Equivalent Vibration Dose Value (m/s ^{1.75})		
	X Axis	Y Axis	Z-Axis
6	0.01	0.01	0.03

Table 7.13 Vibration Measurements Summary – Night time

Measurement Position	Night time (23:00 – 07:00) Equivalent Vibration Dose Value (m/s ^{1.75})		
	X Axis	Y Axis	Z-Axis
6	0.0	0.0	0.02

7.60 The vibration measurement summary results in the above tables show that vibration levels are low on the site and that the highest measured levels align with a “low probability of adverse comment” from vibration during daytime periods only. Measured nighttime vibration levels are considered negligible.

7.61 Analysis of vibration measurements contained in **ES Volume 3, Appendix: Noise and Vibration – Annex 3** shows that reradiated (ground-borne) noise levels are well below relevant guidance criteria and are therefore not considered further in the assessment.

RECEPTORS AND RECEPTOR SENSITIVITY

Baseline Receptors

7.62 The receptors assessed in the impact assessment presented in this ES chapter have been identified in Figure 7.2 and listed with their respective sensitivities (according to Table 7.1) in Table 7.14.

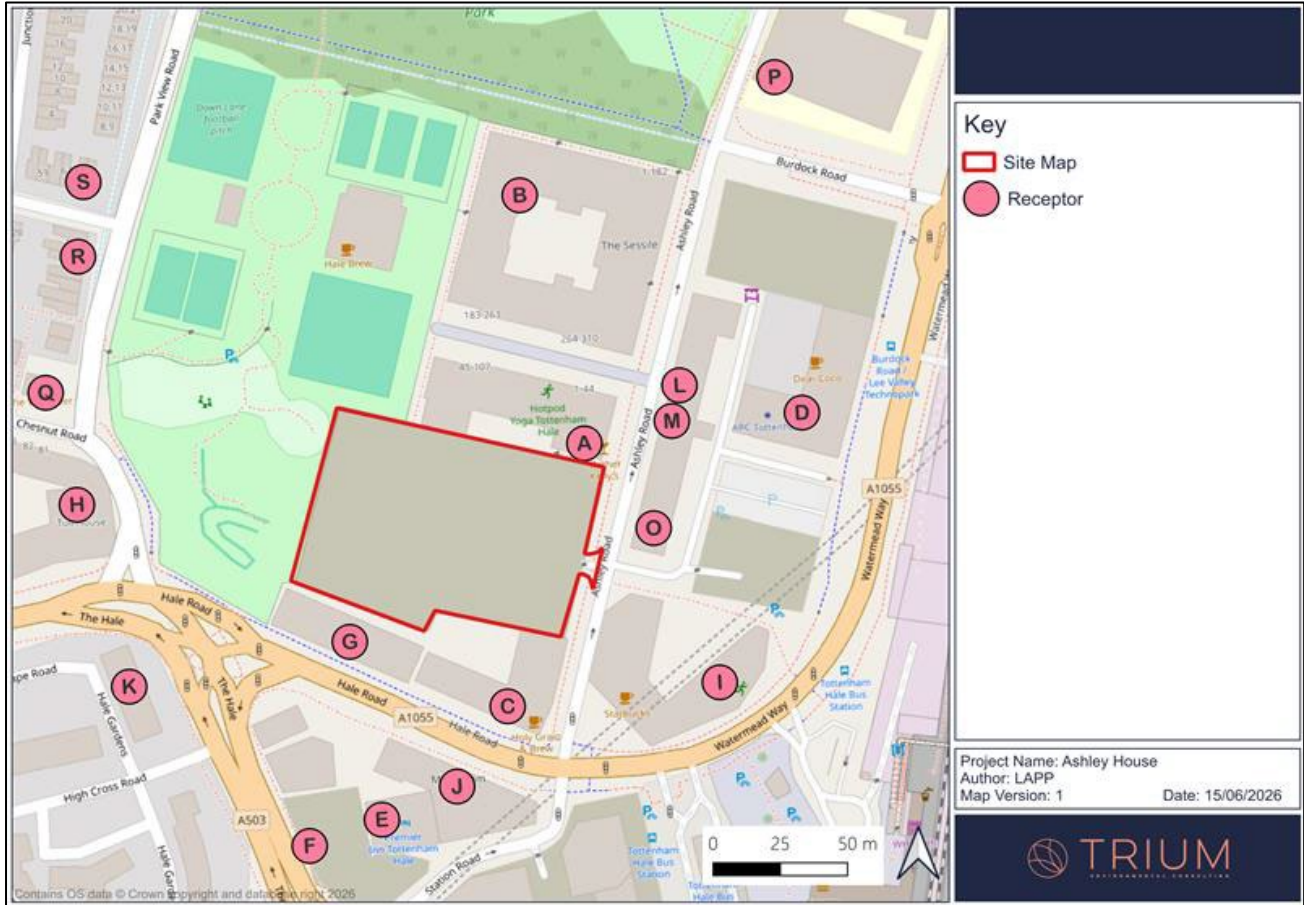
Table 7.14 Summary of Existing Receptors

Receptor Reference ID	Property	Type	Receptor Sensitivity
A	Rosa Luxemburg Apartments, Ashley Road	Residential	High
B	The Sessile Apartments, Ashley Road	Residential	High
C	West Apartments, Ashley Road	Residential	High
D	Gessner Apartments, Watermead Way	Residential	High
E	Premier Inn London Tottenham Hale Hotel	Hotel	High
F*	Ferry Island Apartments	Residential	High
G	1-9 & 19-21 Hale Road (odds)	Residential	High
H	Walter Tull House, Chestnut Road	Residential	High
I	East Apartments, Ashley Road	Residential	High
J	Millstream Tower, Station Road	Residential	High
K	165-195 High Cross Road	Residential	High
L	Link Community Care Limited, Berol House, Ashley Road	Office	Medium
M	NLSSM The School of Sports Massage, Berol House, Ashley Road	Vocational	Medium
N	Welbourne Health Centre, Walter Tull House, Monument Way	Healthcare	Medium
O	Ingeus, Berol House, Ashley Road	Employment Centre	Medium
P	Harris Academy	Education	Medium
Q	The Volunteer	Public House (with Residential)	High
R	1 – 34 Park View	Residential	High
S	57 – 67 Scales Road	Residential	High

* Nos. 11, 13, 15 and 17 Hale Road are currently vacant and are understood to be unlikely to become occupied due to future redevelopment plans. These receptors have therefore been assessed separately in **ES Volume 3, Appendix: Noise and Vibration – Annex 5**, consistent with the approach agreed in the EIA Scoping Report.

7.63 These receptors are considered representative of other potential receptors further away from the site and cover the extent of where noise levels are assessed as significant.

Figure 7.2 Sensitive Receptor Locations



Introduced

- 7.64 The Proposed Development will introduce Block A and Block B which both comprise residential uses. Block A is the proposed co-living block, located to the south of the site. Block B is the affordable housing block, located to the north of the site.
- 7.65 The programme included in **ES Volume 1, Chapter 5: Enabling and Construction Works** indicates that Block B will be completed and occupied while ongoing works at Block A are limited to low impact envelope installation and fit-out activities, i.e. noisy works will have completed and no significant adverse effects would be expected. On the basis of this programme, Block B is therefore not treated as an introduced receptor for the purposes of modelling.
- 7.66 It should be noted that the construction programme may be subject to change as the design and construction strategy develop. For the purposes of this assessment, however, the sequencing presented in **ES Volume 1, Chapter 5: Enabling and Construction Works** has been adopted as the reasonable construction scenario. This indicates that the higher noise-generating substructure and superstructure works at Blocks A and B would be undertaken broadly concurrently and would be complete at Block A before Block B is completed and occupied. Works remaining at Block A following occupation of Block B would principally comprise low impact envelope installation, fit-out and external works, which are comparatively low-impact activities and would not be expected to give rise to significant adverse noise effects at Block B.
- 7.67 A materially different programme, whereby Block B was completed substantially earlier and/or the higher-impact works at Block A were delayed independently, would therefore be required for Block B to be exposed to these activities. This is not considered to represent a reasonable worst-case scenario, as the programme provides for the higher-impact substructure and superstructure works at the two blocks to progress broadly concurrently. Block B would then need to progress through its remaining façade and fit-out works before becoming suitable for occupation, by which time the higher-impact works at Block A are programmed to have

been completed. While the detailed programme may be subject to change, normal variation in the overall construction programme would not be likely to alter the relative sequencing between the Blocks. A material divergence in the progress of the two blocks would be required for occupation of Block B to coincide with the higher-impact works at Block A. On this basis, Block B has not been treated as an introduced receptor for the purposes of the construction noise modelling.

POTENTIAL EFFECTS

Enabling and Construction Works

Enabling and Construction Noise

- 7.68 Maximum predicted noise levels from construction works for the Proposed Development have been modelled for each identified receptor. The impacts predicted are pre-mitigation and align with the ‘Assumptions and Limitations’ section of this ES chapter.
- 7.69 The predicted noise levels presented are those calculated at a distance of 1m from the receptor’s building façade and accounts for reflections from the building façade.
- 7.70 The assessment periods modelled and the relevant receptors are summarised below in Table 7.15 (refer to **ES Volume 1, Chapter 5: Enabling and Construction Works** for construction programme detail).

Table 7.15 Assessment Periods

Assessment Period	Description of Key Activities
1	Enabling works (both Blocks)
2	Substructure works (both Blocks)
3	Superstructure works (both Blocks)

- 7.71 Table 7.16 presents a summary of predicted enabling and construction noise levels. Table 7.1 presents a summary of the results and the likely effects for each receptor.

Table 7.16 Summary of Predicted Enabling and Construction Noise Levels ($L_{Aeq,10h}$ dB)

Receptors	Predicted Noise Level per Assessment Period ($L_{Aeq,10h}$ dB)		
	1 - Enabling	2- Substructure	3 - Superstructure
A: Rosa Luxemburg Apartments, Ashley Road	64	72	71
B: The Sessile Apartments, Ashley Road	54	62	62
C: West Apartments, Ashley Road	65	73	72
D: Gessner Apartments, Watermead Way	50	58	56
E: Premier Inn London Tottenham Hale Hotel	51	59	57
F: Ferry Island Apartments	48	56	53
G: 1-9 & 19-21 Hale Road (odds)	64	72	71
H: Walter Tull House, Chestnut Road	53	61	59
I: East Apartments, Ashley Road	58	66	62
J: Millstream Tower, Station Road	50	58	55
K: 165-195 High Cross Road	54	62	60
L: Link Community Care Limited, Berol House, Ashley Road	61	69	67

Receptors	Predicted Noise Level per Assessment Period ($L_{Aeq,10h}$ dB)		
	1 - Enabling	2- Substructure	3 - Superstructure
M: NLSSM The School of Sports Massage, Berol House, Ashley Road	62	70	69
N: Welbourne Health Centre, Walter Tull House, Monument Way	52	60	58
O: Ingeus, Berol House, Ashley Road	63	71	69
P: Harris Academy	49	53	53
Q: The Volunteer	52	60	58
R: 1 – 34 Park View	51	59	57
S: 57 – 67 Scales Road	49	56	54

Table 7.1 Summary of Predicted Likely Effects from Construction Noise

Receptors	Sensitivity	Predicted Likely Effect from Construction Noise per Assessment Period		
		1 - Enabling	2 - Substructure	3 - Superstructure
A: Rosa Luxembourg Apartments, Ashley Road	High	Minor Adverse (not significant)	Major Adverse (significant)	Major Adverse (significant)
B: The Sessile Apartments, Ashley Road	High	Negligible (not significant)	Minor Adverse (not significant)	Minor Adverse (not significant)
C: West Apartments, Ashley Road	High	Minor Adverse (not significant)	Major Adverse (significant)	Major Adverse (significant)
D: Gessner Apartments, Watermead Way	High	Negligible (not significant)	Negligible (not significant)	Negligible (not significant)
E: Premier Inn London Tottenham Hale Hotel	High	Negligible (not significant)	Negligible (not significant)	Negligible (not significant)
F: Ferry Island Apartments	High	Negligible (not significant)	Negligible (not significant)	Negligible (not significant)
G: 1-9 & 19-21 Hale Road (odds)	High	Minor Adverse (not significant)	Major Adverse (significant)	Major Adverse (significant)
H: Walter Tull House, Chestnut Road	High	Negligible (not significant)	Minor Adverse (not significant)	Negligible (not significant)
I: East Apartments, Ashley Road	High	Negligible (not significant)	Moderate Adverse (significant)	Minor Adverse (not significant)
J: Millstream Tower, Station Road	High	Negligible (not significant)	Negligible (not significant)	Negligible (not significant)
K: 165-195 High Cross Road	High	Negligible (not significant)	Minor Adverse (not significant)	Negligible (not significant)
L: Link Community Care Limited, Berol House, Ashley Road	Medium	Negligible (not significant)	Minor Adverse (not significant)	Minor Adverse (not significant)
M: NLSSM The School of Sports Massage, Berol House, Ashley Road	Medium	Negligible (not significant)	Minor Adverse (not significant)	Minor Adverse (not significant)
N: Welbourne Health Centre, Walter Tull House, Monument Way	Medium	Negligible (not significant)	Negligible (not significant)	Negligible (not significant)
O: Ingeus, Berol House, Ashley Road	Medium	Negligible (not significant)	Moderate Adverse (significant)	Minor Adverse (not significant)
P: Harris Academy	Medium	Negligible (not significant)	Negligible (not significant)	Negligible (not significant)
Q: The Volunteer	High	Negligible (not significant)	Negligible (not significant)	Negligible (not significant)

Receptors	Sensitivity	Predicted Likely Effect from Construction Noise per Assessment Period		
		1 - Enabling	2 - Substructure	3 - Superstructure
R: 1 – 34 Park View	High	Negligible (not significant)	Negligible (not significant)	Negligible (not significant)
S: 57 – 67 Scales Road	High	Negligible (not significant)	Negligible (not significant)	Negligible (not significant)

7.72 The results presented in Table 7.1 indicate that the following receptors would experience Major Adverse (**significant**), local, direct and temporary effects during the worst case individual assessment scenarios:

- Receptor A: Rosa Luxembourg Apartments during substructure and superstructure works;
- Receptor C: West Apartments during substructure and superstructure works; and
- Receptor G: 1-9 & 19-21 Hale Road (odds) during substructure and superstructure works.

7.73 The results presented in Table 7.1 indicate that the following receptors would experience Moderate Adverse (**significant**) local, direct and temporary effects during the individual assessment scenarios:

- Receptor I: East Apartments during substructure works;
- Receptor O: Ingeus, Berol House during substructure works.

7.74 Likely effects during the period of enabling and construction works for all other existing receptors are either Negligible (not significant) or Minor Adverse (not significant) local, direct and temporary across all scenarios. The analysis indicates that while adverse effects are expected, the geographic extent of the effects will be limited to the receptors that are closest to the activities and with the highest sensitivity.

7.75 All reasonable steps will be taken to mitigate and minimise the effects through the adoption of Best Practicable Means (BPM). Noise mitigation measures and noise management plans covering BPM shall be put into place to ensure that noise is minimised at all times. Noise mitigation measures representing BPM (as defined in Section 72 of the COPA are described in the ‘Mitigation, Monitoring and Residual Effects’ section of this ES chapter.

Enabling and Construction Vibration

7.76 BS 5228 indicates that construction activities (particularly piling) generally only generate vibration impacts when they are located less than 20 m from sensitive locations. The magnitude of impact depends on the ground conditions, receptor distance, and, in the case of piling, the methods used.

7.77 Due to these variables, it is not possible to accurately estimate the level of vibration with certainty. At this stage of assessment, it is proposed that limits are placed on vibration at sensitive buildings (receptors). Vibration levels will therefore need to be monitored during enabling and construction at the sensitive locations. The guidance within BS 5228-2 states that vibration PPV levels are tolerable within residential properties when they do not exceed 1.0 mm/s and prior warning of potential vibration inducing works is given to building occupants.

7.78 Annex C and D of BS 5228-2 provide summaries of case histories of vibration measured during piling operations. The examples presented within BS 5228-2 suggest that the potential vibration levels are unlikely to impact any buildings outside of the site, and that at reasonable distances from the location of the works the estimated vibration levels would be expected to be substantially lower than the vibration levels stated above due to geometric propagation attenuation.

7.79 Considering the receptors identified within the surrounding area, the following assessment is made taking into account the receptor’s distance from the piling locations (typically perimeter of building).

7.80 At receptors located more than 100 m from piling activities, vibration levels are expected to be at or below 0.3mm/s, which corresponds with a Very Low magnitude of impact. The following receptors have been assessed as such:

- Receptor F: Ferry Island Apartments (high sensitivity). Effects are assessed as Negligible (not significant).
 - Receptor P: Harris Academy (medium sensitivity). Effects are assessed as Negligible (not significant).
 - Receptor S: 57 – 67 Scales Road (high sensitivity). Effects are assessed as Negligible (not significant).
- 7.81** At receptors located 20 – 100 m from piling activities, vibration levels are expected to be at levels between 0.3 and 1mm/s, which corresponds with a Low magnitude of impact. The following receptors have been assessed as such:
- Receptor B: The Sessile Apartments, Ashley Road (high sensitivity). Effects are assessed as Minor Adverse (not significant);
 - Receptor D: Gessner Apartments, Watermead Way (high sensitivity). Effects are assessed as Minor Adverse (not significant);
 - Receptor E: Premier Inn London Tottenham Hale Hotel (high sensitivity). Effects are assessed as Minor Adverse (not significant);
 - Receptor H: Walter Tull House, Chestnut Road (high sensitivity). Effects are assessed as Minor Adverse (not significant);
 - Receptor I: East Apartments, Ashley Road (high sensitivity). Effects are assessed as Minor Adverse (not significant);
 - Receptor J: Millstream Tower, Station Road (high sensitivity). Effects are assessed as Minor Adverse (not significant);
 - Receptor K: 165-195 High Cross Road (high sensitivity). Effects are assessed as Minor Adverse (not significant);
 - Receptor L: Link Community Care Limited (medium sensitivity). Effects are assessed as Negligible (not significant);
 - Receptor M: NLSSM The School of Sports Massage (medium sensitivity). Effects are assessed as Negligible (not significant);
 - Receptor N: Welbourne Health Centre (medium sensitivity). Effects are assessed as Negligible (not significant);
 - Receptor O: Ingeus, Berol House (medium sensitivity). Effects are assessed as Negligible (not significant);
 - Receptor Q: The Volunteer (high sensitivity). Effects are assessed as Minor Adverse (not significant); and
 - Receptor R: 1 – 34 Park View (high sensitivity). Effects are assessed as Minor Adverse (not significant).
- 7.82** At receptors located within 20 m of piling activities, vibration levels are expected to be at levels between 1 and 3 mm/s, which corresponds with a Medium magnitude of impact. The following receptors have been assessed as such:
- Receptor A: Rosa Luxemburg Apartments, Ashley Road (high sensitivity). Effects are assessed as Moderate Adverse (**significant**);
 - Receptor C: West Apartments, Ashley Road (high sensitivity). Effects are assessed as Moderate Adverse (**significant**); and
 - Receptor G: 1-9 & 19-21 Hale Road (odds) (high sensitivity). Effects are assessed as Moderate Adverse (**significant**).
- 7.83** These effects are classified as Local, Direct and Temporary. As per the other enabling and construction impacts, a worst-case (shortest) distance to the receptors has been taken, and any adverse impacts will be limited in duration, i.e. short-term.

7.84 Note that at Introduced Receptor Block B, the occupation of the receptor will not coincide with piling works based on the programme at Block A. Works associated with external envelope and fit out works at the completion of Block A will not include vibration generating activities, providing that reasonable good practice is undertaken during the works.

Enabling and Construction Traffic Noise

- 7.85** The potential effects of construction traffic noise have been appraised across the site, using 2026 Baseline against Peak Year 2029 construction traffic flows.
- 7.86** The general increases in sound level across the site as a result of the construction traffic flows are shown in Table 7.17 below.

Table 7.17 Construction Traffic Noise Assessment

Road Link	2026 Baseline AAWT 18-Hour Traffic Flow (HGV%)	Peak Construction Year 2029 AAWT 18-Hour Traffic Flow (HGV%)	Predicted Change in Traffic Noise Level (dB)	Magnitude of Impact
Ashley Road*	933 (8%)	969 (12%)	0.2	Very Low
Ferry Lane	12378 (5%)	12414 (5%)	0.0	Very Low
Monument Way	36049 (8%)	36085 (8%)	0.0	Very Low
High Road South	33170 (10%)	33206 (10%)	0.0	Very Low
High Road North	23071 (12%)	23107 (13%)	0.0	Very Low

*Note that the flow used for this road link is below the validity threshold for CRTN (1000 vehicles) and is included for indication only

- 7.87** Table 7.17 indicates that all road links may experience an increase in traffic noise level of less than 1 dB during the construction phase, equivalent to a Very Low magnitude impact.
- 7.88** The receptors near the road links are high or medium sensitivity and the resultant effects from the increase in road traffic noise are negligible (not significant) at all receptors during the construction phase.

MITIGATION, MONITORING AND RESIDUAL EFFECTS

Enabling and Construction Mitigation

- 7.89** Good industry standards, guidance and practice procedures (i.e., Considerate Contractors Scheme) will be adopted in order to minimise noise and vibration effects during enabling and construction. Noise and vibration will be managed to avoid and minimise significant impacts. Mitigation measures will be documented within the Construction Environmental Management Plan ('CEMP'). An Outline CEMP (OCEMP) submitted with the present application considers the relevant key guidance documents and initial mitigation measures to be adopted. As per the OCEMP, these mitigation measures will be audited on a monthly basis during construction.
- 7.90** The following section documents the mitigation measures not inherently included within the above completed assessments.

Mitigation of Enabling and Construction Noise

- 7.91** The underlying objective would be for the mitigation measures to be employed to ensure that potential noise impacts at nearby sensitive receptors, as a result of enabling and construction activities, are minimised.
- 7.92** The preferred approach for controlling enabling and construction noise is to reduce source levels where possible, but with due regard to practicality. The simplest and most effective method of reducing noise at nearby receptors is to ensure that noisy plant is located as far from receptors as practicable and is screened using temporary barriers or enclosures.

- 7.93** Noise experienced by receptors can also be reduced by limiting the daily time that noisy equipment is operated; however, it is acknowledged that sometimes a greater noise level may be acceptable if the duration of the activity, and therefore length of disruption, is reduced.
- 7.94** Noise shall be minimised by adopting BPM as standard working practices across the site to ensure that noise is reduced whenever practicable. The following provisions are examples of BPM and will be adhered to where practicable throughout the enabling and construction programme:
- The production of a construction noise and vibration report that evaluates the construction activities and provides specific BPM to reduce noise and vibration;
 - Limiting high impact activities (e.g. piling) to specific times during the day where feasible;
 - Plant is to be properly maintained and operated in accordance with manufacturer's recommendations. Electrically powered plant is preferred, where practicable, to mechanically powered alternatives;
 - Where feasible, all stationary plant would be located so that the noise effect at all occupied residential and commercial properties is minimised and, if practicable, every item of static plant when in operation is to be sound attenuated using methods based on the guidance and advice given in BS 5228;
 - Trade contractors would at all times apply the principle of Best Practicable Means as defined in Section 72 of the COPA and carry out all work in such a manner as to reduce any disturbance from noise and vibration to a minimum; and
 - The timing of building operations will be critical in avoiding noise and vibration nuisance to surrounding areas and premises. The contractor would identify particularly sensitive periods in the works so that the potential problems can be minimised and that early and good public relations with the adjacent occupants of buildings are maintained.
- 7.95** The assessment of potential construction noise and vibration impacts in this ES chapter has not taken account of the above BPM measures (i.e., the assessment is of unmitigated effects). While it is assumed that any appointed contractor would operate within BPM, the site conditions and exact construction methodologies have not yet been designed in detail, and so specific mitigation measures cannot be accurately modelled. Therefore, it is assumed for robustness that worst case conditions will apply.
- 7.96** During the detailed working up of the construction programme and preparation of the CEMP, the BPM measures to mitigate potential noise and vibration impacts on nearby noise sensitive premises will be defined and agreed with LBH. The primary method for the control of noise and vibration will be a Section 61 prior consent agreement under the COPA with LBH being established.
- 7.97** It is expected that a Section 61 agreement under the COPA will contain appropriate noise and vibration limits at the nearby properties. These limits shall be monitored and reported, with the reports highlighting when it is likely that the construction limits will be exceeded, so that construction activities can be effectively altered to mitigate the impact.
- 7.98** In addition, a Section 61 agreement also sets out a dispensation and variation procedure under which consent can be applied for to carry out works which would potentially exceed the agreed noise and vibration limits or must occur at times when such work is otherwise not approved. Such dispensation/variation would be applied for where there are good engineering, safety or practical reasons for undertaking the works at these times. The selected contractor should adopt measures, including site supervision arrangements, to reduce noise and vibration to a minimum in accordance with BPM, as defined in Section 72 of the COPA.
- 7.99** It has been predicted that significant noise effects (unmitigated) have the potential to occur at several receptor locations during the period of enabling and construction works, and could represent intermittent, temporary significant effects. Through the implementation of mitigation measures representing BPM, it is conservatively assumed that construction noise effects can be reduced by 3dB (i.e. increased time management). The 3 dB reduction represents a conservative allowance for the overall benefit of the mitigation measures, including localised screening, operational time management, and siting of equipment. While greater reductions may be achievable for individual activities, the close proximity of receptors to the works is likely to constrain the effectiveness of some mitigation measures.

- 7.100** Assuming the 3 dBA reduction in sound outlined above is achieved through mitigation implemented by the Contractor, some Major Adverse (**significant**) effects are predicted to be reduced to Moderate Adverse (**significant**) at

- Receptor A: Rosa Luxemburg Apartments during substructure and superstructure works;
- Receptor C: West Apartments during substructure and superstructure works; and
- Receptor G: 1-9 & 19-21 Hale Road (odds) during substructure and superstructure works.

- 7.101** The previously evaluated Moderate Adverse (significant) effects at Receptor I: East Apartments (substructure) and Receptor O: Ingeus, Berol House (substructure) are predicted to reduce to Minor Adverse (not significant).

- 7.102** Further mitigation measures may be considered and reviewed as part of the finalised CEMP.

Enabling and Construction Traffic Noise

- 7.103** Construction traffic noise effects have been assessed as Negligible (not significant) without the need for mitigation measures at all receptors.

- 7.104** It is nonetheless recommended that the following measures are to be employed as standard best practice to ensure that construction traffic noise effects remain not significant:

- Vehicles employed for any activity associated with the construction works will, where reasonably practicable, be fitted with effective exhaust silencers and shall be maintained in good working order and operated in a manner such that noise emissions are controlled and limited as far as reasonably practicable;
- Time slots are adopted for deliveries to ensure that convoys of vehicles do not arrive simultaneously and avoid unnecessary idling on-site;
- Strict control to prevent temporary parking on pavements in the vicinity of noise sensitive receptors; and
- The use of sufficient clear signage to ensure that construction vehicles use only designated routes.

Mitigation of Construction Vibration

- 7.105** Adverse effects are only likely to occur if piling activities are taking place in proximity to sensitive receptors (i.e. assuming the worst case, less than 20 m distance). In reality, high vibration generating activities are unlikely to occur so close to sensitive receptors as detailed planning methodology (i.e. Piling Method Statement) and solutions can seek to further reduce the potential for adverse impacts. Where impacts remain, they would likely be controlled to short-term duration with appropriate monitoring and advanced notice provided to affected receptors.

- 7.106** Given that there is potential for predicted impacts to be significant under the worst-case scenario, mitigation measures will be put in place to ensure that vibration effects are minimised as far as practicable through the use of an appropriate piling technique, design and methodology.

- 7.107** It has been assumed in the vibration assessment that the contractor shall use a piling technique that is least likely to cause adverse vibration impacts (e.g. CFA piling or similar) at nearby receptors.

- 7.108** A 'Piling Method Statement' (PMS) will also be provided and agreed prior to the commencement of these works. Vibration limits will be set in accordance with BS5228-2 to minimise the risk of complaints or building damage. These limits will be controlled through implementation of the CEMP and vibration monitoring. The statement will also include vibration monitoring and action levels.

- 7.109** It is considered that, with the appropriate and successful implementation of the mitigation proposed, the likely adverse effects predicted would be reduced and controlled. However, until the final piling strategy and detailed construction planning are identified, for the purpose of this assessment, the worst-case effects are concluded at the closest receptors within 20 m of piling activities which are as follows:

- Receptor A: Rosa Luxemburg Apartments, Ashley Road;

- Receptor C: West Apartments, Ashley Road; and
- Receptor G: 1-9 & 19-21 Hale Road (odds).

7.110 Moderate Adverse (**significant**) effects are expected at these residential receptors as a result of enabling and construction vibration (unchanged from the primary assessment of effects in the absence of mitigation).

Residual Effects

7.111 All of the residual effects resulting from the Proposed Development, are presented in Table 7.18, identifying whether the effect is significant or not.

Table 7.18 Residual Effects

Receptor	Description of the Residual Effect	Scale and Nature	Significant / Not Significant	Geo	D I	P T	St Mt Lt
Enabling and Construction Works							
Rosa Luxembourg Apartments, West Apartments and 1-9 & 19-21 Hale Road (odds)	Substructure Construction Noise	Moderate Adverse	Significant	L	D	T	Mt
Rosa Luxembourg Apartments, West Apartments and 1-9 & 19-21 Hale Road (odds)	Superstructure Construction Noise	Moderate Adverse	Significant	L	D	T	Mt
West Apartments and 1-9 & 19-21 Hale Road (odds)	Enabling Construction Noise	Minor Adverse	Not significant	L	D	T	Mt
NLSSM The School of Sports Massage and Ingeus, Berol House	Superstructure Construction Noise	Minor Adverse	Not significant	L	D	T	Mt
NLSSM The School of Sports Massage and Ingeus, Berol House	Substructure Construction Noise	Minor Adverse	Not significant	L	D	T	Mt
Rosa Luxembourg Apartments, NLSSM The School of Sports Massage and Ingeus, Berol House	Enabling Construction Noise	Negligible	Not Significant	L	D	T	Mt
The Sessile Apartments, Gessner Apartments, Premier Inn London Tottenham Hale, Ferry Island Apartments, Walter Tull House, Millstream Tower, 165-195 High Cross Road, Link Community Care Limited; Welbourne Health Centre; Harris Academy; The Volunteer; 1 – 34 Park View and ; 57 – 67 Scales Road	Construction Noise (all works)	Negligible	Not Significant	L	D	T	Mt
Rosa Luxembourg Apartments, West Apartments and 1-9 & 19-21 Hale Road (odds)	Construction Vibration	Moderate Adverse	Significant	L	D	T	Mt
The Sessile Apartments, Gessner Apartments, Premier Inn London Tottenham Hale, Walter Tull House,	Construction Vibration	Minor Adverse	Not Significant	L	D	T	Mt

Receptor	Description of the Residual Effect	Scale and Nature	Significant / Not Significant	Geo	D I	P T	St Mt Lt
East Apartments, Millstream Tower and 165-195 High Cross Road; The Volunteer and; 1 – 34 Park View							
Ferry Island Apartments and Link Community Care Limited, Welbourne Health Centre, NLSSM The School of Sports Massage; Ingeus, Berol House; Harris Academy and; 57 – 67 Scales Road	Construction Vibration	Negligible	Not Significant	L	D	T	Mt
All receptors	Construction traffic noise	Negligible	Not Significant	L	D	T	Mt
Notes: Residual Effect - Scale = Negligible / Minor / Moderate / Major - Nature = Beneficial or Adverse Geo (Geographic Extent) = Local (L), Borough (B), Regional (R), National (N) D = Direct / I = Indirect P = Permanent / T = Temporary St = Short Term / Mt = Medium Term / Lt = Long Term N/A = not applicable / not assessed							

ASSESSMENT OF THE FUTURE ENVIRONMENT

Evolution of the Baseline Scenario

- 7.112 Regarding any likely future change in road traffic noise in the absence of the Proposed Development (for example, as a result of Cumulative Schemes in the area or forecasts of general changes in road use), this is reflected in the predicted road traffic noise levels for the Future Baseline scenario, which has been considered through available information, professional experience and judgement.
- 7.113 Potential changes in road traffic flows, the operation of non-residential uses (leisure/entertainment and retail) and changes to aviation volumes may result in changes to the noise levels experienced at the site and the surrounding receptors. Potential changes in road traffic, for example, can be derived from either natural population growth and / or new developments and infrastructure within the local and wider area of the borough and London region.
- 7.114 The evolved baseline is expected to be similar to that currently experienced unless there were to be substantial and unforeseen changes occur to the road network or London airports. Changes to the building services plant may be required over time, as equipment gets replaced or upgraded. It would be expected that changes to the building services plant would reflect LBH’s typical plant noise emission requirements and appropriate mitigation would be introduced that reduces the noise at each respective scheme.

Cumulative Effects Assessment

7.115 The cumulative assessment considers the potential for noise and vibration effects associated with the enabling and construction works of the Proposed Development to interact with the identified cumulative schemes. This includes consideration of cumulative schemes both during their construction and, where they are anticipated to be completed and occupied during the construction programme for the Proposed Development, as completed developments which may introduce new noise and vibration sensitive receptors.

- 7.116** The cumulative schemes considered within the assessment comprise Berol Quarter; the Strategic Development Partnership (SDP) sites at Welbourne, North Island, Ferry Island, Ashley Road East and Ashley Road West; and 29–33 The Hale. SDP Plots A, C, D and E have been treated as part of the baseline condition, as these developments are either complete or anticipated to be complete prior to determination of the planning application, and have therefore not been considered as separate sources of construction noise and vibration.
- 7.117** It is acknowledged the Applicant intends to bring forward a standalone application on the Cannon Factory site. Where possible and subject to the information available, the technical assessments of the ES have qualitatively assessed Cannon Factory in terms of its broad parameters as a separate cumulative scenario by reviewing any additional or different cumulative effects associated with the proposals based on an indicative massing, building footprint and quantum of development.
- 7.118** Consequently, the following cumulative assessments have been carried out:
- Cumulative Assessment – the Proposed Development with cumulative schemes; and
 - Cumulative Consideration of Cannon Factory proposals – the Proposed Development with cumulative schemes, in addition to qualitative consideration of the emerging proposals for the Cannon Factory across the enabling and construction works and once the Proposed Development and surrounding cumulative schemes are complete and operational.
- 7.119** The cumulative assessment of completed and occupied cumulative schemes is limited to consideration of their potential to introduce new sensitive receptors that could be affected by the enabling and construction works of the Proposed Development. The Proposed Development itself is assessed in respect of enabling and construction noise and vibration effects only; operational noise and vibration effects associated with the Proposed Development are therefore not considered within the cumulative assessment.
- 7.120** Relevant cumulative schemes which have the potential to create additional or different significant effects in the cumulative scenario would be only Berol Quarter, as this has the potential to contribute significant construction noise/vibration at the same time as the Proposed Development, as all other sites have been completed or are nearing completion when noisy works do not occur.
- 7.121** The submitted planning information for the Berol Quarter does not include an evaluation of construction noise or vibration, however, it is reasonable to assume that the project would result in similar noise and vibration levels as the Proposed Development.
- 7.122** The receptors shared between Berol Quarter and the Proposed Development are Receptor A: Rosa Luxemburg Apartments, Receptor D: Gessner Apartments and Receptor I: East Apartments.
- 7.123** When consideration for cumulative noise is taken into account, it is feasible that effects at Receptor A: Rosa Luxemburg Apartments revert to their pre-mitigated levels, i.e. a Major Adverse (**significant**) effect as a worst-case. The effects at Receptors D: Gessner Apartments and Receptor I: East Apartments, will likely be more affected by noise from construction activities at Berol Quarter than those associated with the Proposed Development. As with Receptor A, this has the potential to result in a worst-case Major Adverse (**significant**) effect.
- 7.124** In practice, the magnitude of any cumulative construction noise effect would depend on the timing and location of activities being undertaken at each development and their relative contribution to noise levels at individual receptors. Where construction noise from two developments is similar at a receptor, the combined noise level could be higher than that associated with either development in isolation. Conversely, where noise from one development is substantially lower, its contribution to the overall construction noise level would be limited.
- 7.125** Construction vibration effects are more localised and are dependent on the specific activities being undertaken and their distance from individual receptors. Given the separation between the Proposed Development and Berol Quarter, vibration generated by works at separate development sites is unlikely to combine to result in materially greater effects at a common receptor.
- 7.126** Notwithstanding this, the effects at Receptor D: Gessner Apartments and Receptor I: East Apartments would likely be Moderate Adverse (**significant**), due to the separating distance to the Berol Quarter, i.e. works at the Berol Quarter would be expected to result in the significant effect, rather than a cumulative effect.

Cumulative Consideration of Tottenham Hale Retail Park

- 7.127** Tottenham Hale Retail Park has also been considered as an emerging cumulative site. The site is identified within the LBH Draft Local Plan as a potential site allocation for redevelopment (TH SA01); however, no planning application has been submitted. There is therefore insufficient information regarding the form, scale, construction programme or future sensitive uses associated with its redevelopment to enable a detailed quantitative assessment. The site has consequently been considered qualitatively, where relevant, including the potential for construction activity to coincide with construction of the Proposed Development and for any completed development to introduce new noise or vibration sensitive receptors.

Cumulative Consideration of Cannon Factory

- 7.128** This assessment considers the Proposed Development in conjunction with the identified cumulative schemes and the emerging proposals for the Cannon Factory site. The conclusions of the cumulative schemes assessment therefore remain relevant, with this secondary assessment considering whether the addition of the Cannon Factory gives rise to any further or materially different cumulative noise and vibration effects.
- 7.129** As identified for the cumulative schemes identified above, there is potential for construction of the Proposed Development to overlap with works at other cumulative schemes, resulting in temporary increases in construction noise at common sensitive receptors.
- 7.130** The common receptors between the Cannon Factory and the Proposed Development are those at Receptor A: Rosa Luxemburg Apartments, Receptor B: The Sessile Apartments and Receptor D: Gessner Apartments.
- 7.131** From the above, it is unlikely that cumulative effects will occur, given the orientation of the receptors relative to the different sites, e.g. noise from the Proposed Development affects the southern façade of Rosa Luxemburg Apartments, whereas the Cannon Factory will mostly affect the eastern elevation etc.
- 7.132** Accordingly, it is thought likely that the noise/vibration from each site (Cannon Factory and the Proposed Development) will not act cumulatively, and the two sites, with similar requirements to control noise/vibration would not result in new adverse effects.

LIKELY SIGNIFICANT EFFECTS

- 7.133** Significant Adverse effects are predicted at Rosa Luxemburg Apartments, West Apartments and 1-9 & 19-21 Hale Road (odds) due to the construction works (substructure and superstructure) associated with the Proposed Development. These may include significant adverse effects due to noise during substructure and superstructure works, and vibration generated during substructure works. These effects will be temporary in nature; based on the current programme, noise related adverse effects would occur intermittently over a period of up to approximately 17 months, and vibration generated during piling works would be limited to approximately four months.
- 7.134** Additional significant effects in the cumulative scenario may also occur at Gessner Apartments and East Apartments should construction works at Berol Quarter coincide with those associated with the Proposed Development. At these receptors, the effect will be primarily determined by the noise and vibration contribution from Berol Quarter and not those associated with the Proposed Development.