Regis Road Delivery Hub

Kentish Town, London, NW5 9TN

Noise Assessment

January 2022

NALO.UK@tetratech.com

Tetra Tech Leeds, 3 Sovereign Square, Sovereign Street, Leeds, United Kingdom, LS1 4ER

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1.0 INTRODUCTION

1.0 Purpose of this Report

This report presents the findings of a noise assessment undertaken to accompany a Planning Application for a mixed-use commercial development comprising delivery kitchens & hydroponic farm with associated parking, rest areas, offices and electric vehicle charging stations at Regis Road, Kentish Town, within the London borough of Camden. This report considers the noise impact of the proposed daytime and night-time (24-hour) operation of the following external noise sources at the site:

- New Building Services Plant
- Goods Pickup/Delivery (Delivery Vehicles)
- Car Parking/Charging

A description of the existing noise environment in and around the site is provided. The noise levels from the proposed development have been predicted at local representative receptors using CADNA noise modelling software which incorporates ISO 9613 methodologies and calculations.

A list of acoustic terminology and abbreviations used in this report is provided in Appendix A and Report Conditions are presented in Appendix B.

1.2 Legislative Context

This report is intended to provide information relevant to the local planning authority and their consultees in support of a planning application for the above proposed development. Policy guidance with respect to noise is found in the National Planning Policy Framework (NPPF), published in July 2021. With regard to noise and planning, the NPPF contains the following statement at paragraph 174:

"*174 Planning policies and decisions should contribute to and enhance the natural and local environment by:*

> *e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans…"*

"185. Planning policies and decisions should also ensure that new development is appropriate for its location taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as the potential sensitivity of the site or the wider area to impacts that could arise from the development. In doing so they should:

a) mitigate and reduce to a minimum potential adverse impacts resulting from noise from new development – and avoid noise giving rise to significant adverse impacts on health and the quality of life;

b) identify and protect tranquil areas which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason…"

"187. Planning policies and decisions should ensure that new development can be integrated effectively with existing businesses and community facilities (such as places of worship, pubs, music venues and sports clubs). Existing businesses and facilities should not have unreasonable restrictions placed on them as a result of development permitted after they were established. Where the operation of an existing business or community facility could have a significant adverse effect on new development (including changes of use) in its vicinity, the applicant (or 'agent of change') should be required to provide suitable mitigation before the development has been completed.

188. The focus of planning policies and decisions should be on whether proposed development is an acceptable use of land, rather than the control of processes or emissions (where these are subject to separate pollution control regimes). Planning decisions should assume that these regimes will operate effectively. Equally, where a planning decision has been made on a particular development, the planning issues should not be revisited through the permitting regimes operated by pollution control authorities."

The Planning Practice Guidance (PPG) provides further guidance with regard to the assessment of noise within the context of the NPPF. The overall aim of this guidance is, tying in with the principles of the NPPF and the Explanatory Note of the Noise Policy Statement for England (NPSE), is to, *'identify whether the overall effect of noise exposure is, or would be, above or below the significant observed adverse effect level and the lowest observed adverse effect level for the given situation.'*
A summary of the effects of noise exposure associated with both noise generating developments and noise sensitive developments is presented within the PPG and repeated as follows:

Table 1.1 NPPG Noise Exposure Hierarchy

Perception	Examples of Outcomes	Increasing Effect Level	Action
Not present	No Effect	No Observed Effect	No Specific Measures Required
Present and not intrusive	Noise can be heard, but does not cause any change in behaviour, attitude or other physiological response. Can slightly affect the acoustic character of the area but not such that there is a change in the quality of life.	No Observed Adverse Effect	No Specific Measures Required
Lowest Observed Adverse Effect Level (LOAEL)			
Present and intrusive	Noise can be heard and causes small changes in behaviour, attitude or other physiological response, e.g. turning up volume of television; speaking more loudly; where there is no alternative ventilation, having to close windows for some of the time because of the noise. Potential for some reported sleep disturbance.	Observed Adverse Effect	Mitigate and reduce to a minimum

	Affects the acoustic character of the area such that there is a small actual or perceived change in the quality of life.		
Significant Observed Adverse Effect Level (SOAEL)			
Present and disruptive	The noise causes a material change in behaviour, attitude or other physiological response, e.g. avoiding certain activities during periods of intrusion; where there is no alternative ventilation, having to keep windows closed most of the time because of the noise. Potential for sleep disturbance resulting in difficulty in getting to sleep, premature awakening and difficulty in getting back to sleep. Quality of life diminished due to change in acoustic character of the area.	Significant Observed Adverse Effect	Avoid
Present and very disruptive	Extensive and regular changes in behaviour, attitude or other physiological response and/or an inability to mitigate effect of noise leading to psychological stress, e.g. regular sleep deprivation/awakening; loss of appetite, significant, medically definable harm, e.g. auditory and non-auditory.	Unacceptable Adverse Effect	Prevent

The NPPF, NPSE and PPG do not, however, present absolute noise level criteria which define SOAEL, LOAEL and NOEL which is applicable to all sources of noise in all situations. Therefore, within the context of the Proposed Development, national planning policy and appropriate guidance documents including 'BS 8233 – Guidance on Sound Insulation and Noise Reduction for Buildings' (2014) and 'BS 4142: 2014 Methods for Rating and Assessing Industrial and Commercial Sound'. Section 2.0 presents the noise level criteria used as a basis of this assessment.

The PPG also states that *neither the NPSE nor the NPPF (which reflects the Noise Policy Statement) expects noise to be considered in isolation, separately from the economic, social and other environmental dimensions of the proposed development.*

1.3 Acoustic Consultants' Qualifications, Professional Memberships

The lead project Acoustic Consultant is David Fink. The report has been checked by Ashley Shepherd and verified by Nigel Mann. Relevant qualifications, membership and experience are summarised below.

Table 1.2 Acoustic Consultants' Qualifications & Experience

Name	Education	Experience in Undertaking Noise Assessments (Start date of working in noise & acoustics)	Attained Associate Membership of the Institute of Acoustics (date)	Attained Membership of the Institute of Acoustics (date)
David Fink	BEng 2016	March 2017	June 2017	-
Ashley Shepherd	BSc 2013	Feb 2014	Feb 2014	Nov 2017
Nigel Mann	BSc 1997 MSc 1999	Nov 1998	Nov 2001	Jul 2005

2.0 ASSESSMENT CRITERIA

2.1 National Planning Practice Guidance – Assessment Criteria

In order to enable the assessment of the proposed development in terms of LOAEL and SOAEL, Table 2.1 presents equivalent noise levels and associated actions with the target noise level criteria identified. The noise level criteria detailed below have been derived from standards and design guidance:

- *BS 8233:2014 'Guidance on sound insulation and noise reduction for buildings – Code of practice'*
- *BS 4142:2014, 'Methods for rating and assessing industrial and commercial sound'*

Table 2.1 Noise Level Criteria and Actions

Effect Level	Assessment	Noise Level Criteria	Action / Justification
No Observed Effect Level	Noise Intrusion Assessment	Noise levels are below: Bedrooms: 30 dB $L_{Aeq,8hours}$ / 45 dB L_{Amax} *Bedrooms: 45 dB L_{Amax}*	Action: No Action Required
	Background Comparison	BS4142 Score of zero or lower	No Action Required Score of zero or lower is an indication of the sound source having a low impact, depending on context
Lowest Observed Adverse Effect Level (LOAEL)	Noise Intrusion Assessment	Noise levels are above: Bedrooms: 30 dB $L_{Aeq,8hours}$ / 45 dB L_{Amax} Living Rooms: 35 dB $L_{Aeq,16hours}$	Within BS8233 guideline criteria
	Background Comparison	BS4142 Score of +5 or lower	No Action Required Difference of +5 dB likely to be an indication of an adverse effect, depending on context BS4142 Score of plus 5 or lower
Significant Observed Adverse Effect Level (SOAEL)	Noise Intrusion Assessment	Noise levels are exceeded: Bedrooms: 35 dB $L_{Aeq,8hours}$ / 45 dB L_{Amax} Living Rooms: 40 dB $L_{Aeq,16hours}$	Mitigate and reduce to a achieve: Bedrooms: 35 dB $L_{Aeq,8hours}$ Living Rooms: 40 dB $L_{Aeq,16hours}$
	Background Comparison	BS4142 Score greater than +5	Difference of up to +10 dB likely to be an indication of a significant adverse effect, depending on context Mitigate to achieve: BS4142 Score of + 5 or lower
Unacceptable Observed Adverse Effect Level (UOAEL)	Noise Intrusion Assessment	Noise levels are exceeded: Bedrooms: 40 dB $L_{Aeq,8hours}$ / 50 dB L_{Amax} Living Rooms: 45 dB $L_{Aeq,16hours}$	Mitigate and reduce to a achieve: Bedrooms: 35 dB $L_{Aeq,8hours}$ Living Rooms: 40 dB $L_{Aeq,16hours}$
	Background Comparison	BS4142 Score of + 10 or higher	Avoid, depending on context Mitigate to achieve: BS4142 Score of 5 dB or lower

2.2 Local Guidance – Camden Local Plan

The criterion of the London Borough of Camden for noise emissions of new plant is outlined within Appendix 3 of the Camden Local Plan as follows:

"Industrial and Commercial Noise Sources

A relevant standard or guidance document should be referenced when determining values for LOAEL and SOAEL for non-anonymous noise. Where appropriate and within the scope of the document it is expected that British Standard 4142:2014 'Methods for rating and assessing industrial and commercial sound' (BS 4142) will be used. For such cases a 'Rating Level' of 10 dB below background (15dB if tonal components are present) should be considered as the design criterion)."

As such, a -10dB rating below background following the methods outlined within BS 4142 shall be used as the design criterion for fixed plant.

3.0 ASSESSMENT METHODOLOGY

3.1 Noise Modelling Methodology

The development has been assessed using three-dimensional noise modelling of source noise levels at a large number of locations both horizontally and vertically. CADNA noise modelling software has been used. This model is based on ISO 9613 noise propagation methodology and allows for detailed prediction of noise levels to be undertaken for large numbers of receptor points and different noise emission scenarios both horizontally and vertically. The modelling software calculates noise levels based on the emission parameters and spatial settings that are entered. Input data, assumptions and model settings as given in the table below have been used.

Table 3.1 Modelling Parameters Sources and Assumptions

Parameter	Source	Details
Horizontal distances – around site	Ordnance Survey	Ordnance Survey
Ground levels – around site	Ordnance Survey	Ordnance Survey
Building heights – around site	Tetra Tech Observations	8 m height for two storey residential properties, with 4m per additional storey.
Barrier heights	Tetra Tech Observations	1.8m for existing garden fences.
Receptor positions	Tetra Tech	1 m from façade, height of 1.5 m for ground floor, 4 m for first floor properties. 4.0 m height for model grid.
Proposed Plans	REEF Technologies	Drawing Title: Site Layout after UKPN Power Recieved Received: 15/09/21

It is acknowledged that a number of these assumptions will affect the overall noise levels presented in this report. However, it should be noted that certain assumptions made, as identified above, are worst-case.

3.2 Model Input Data

Delivery Vehicle Noise Data

The following noise levels have been calculated based on the worst-case vehicle movements assuming all of the restaurants and charging bays are attended by a vehicle during the assessment period

All measurements were undertaken in free-field conditions. The levels used in the assessment include noise from the vehicle pulling up to the restaurant, manoeuvring into position and then pulling away once food collection is complete. Events are modelled as a point source.

Vehicle Parking Event Noise Data

2 minutes at L_p 65.5 dB at 3 m distance (vehicle arriving and manoeuvring)

Daytime $L_{Aeq(1hour)}$ = 10log(1/60)(2mins x $10^{0.1x65.5\ dB}$)

= 50.7 dB at 3 m distance

2 minutes at L_p 65.5 dB at 3 m distance (vehicle arriving and manoeuvring)

Night-time $L_{Aeq(15mins)}$ = 10log(1/15)(2mins x $10^{0.1x65.5\ dB}$)

= 56.7 dB at 3 m distance

Maximum Noise Level

LAmax = 73.0 dB at 3m distance.

Building Services Plant Noise Data

Point sources have been used in the model to represent the plant locations associated with the scheme provided by the client. The external units modelled, and their respective sound pressure levels (SPL) are outlined within Table 3.2 below.

Table 3.2 Modelling Parameters Sources and Assumptions

Manufacturer	Model Number	Sound Pressure Level (Per Unit)
Mitsubishi	SKR-100ZRW	54 dB(A) at 1m
	PUZ-M100VKA-ET	56 dB(A) at 1m

All values are sound pressure levels in dBA re: 2x 10^{-5} Pa

3.3 Sensitive Receptors

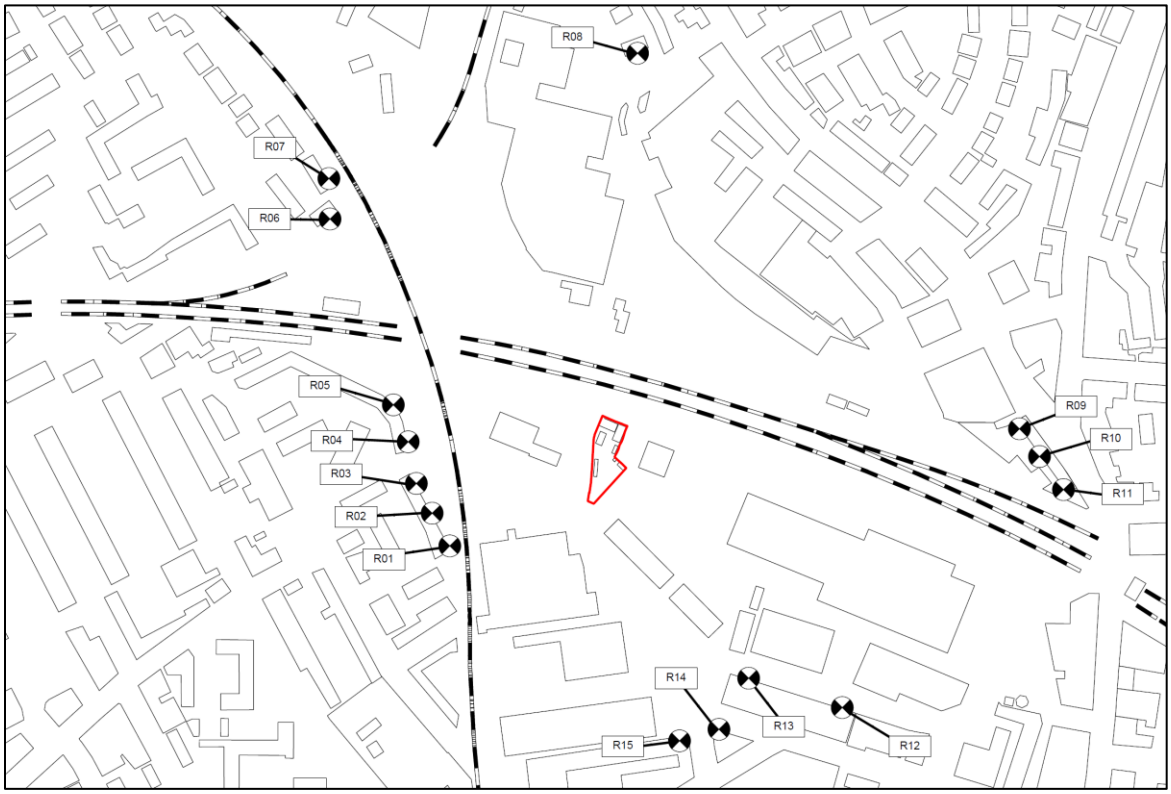
Table 3.3 below summarises receptor locations that have been selected to represent worst-case residential receptors with respect to direct noise from the site. The receptor positions are shown illustratively on Figure 3.1 below.

Table 3.3 Sensitive Receptor Locations

Ref.	Description	Use Classification	Height (m) Daytime
R01	16 Woodyard Close	Residential	8.0
R02	26 Woodyard Close	Residential	8.0
R03	38 Woodyard Close	Residential	8.0
R04	93 Cressfield Close	Residential	8.0
R05	69 Cressfield Close	Residential	8.0

Ref.	Description	Use Classification	Height (m) Daytime
R06	15 Meru Close	Residential	8.0
R07	8 Meru Close	Residential	12.0
R08	1 Sanderson Close	Residential	4.0
R09	385 Kentish Town Road	Residential	8.0
R10	381 Kentish Town Road	Residential	8.0
R11	375 Kentish Town Road	Residential	8.0
R12	52 Holmes Road	Residential	12.0
R13	74 Holmes Road	Residential	12.0
R14	Simone House	Residential	12.0
R15	76 Holmes Road	Residential	12.0

Figure 3.1 Sensitive Receptor Locations



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4.0 NOISE SURVEY

A monitoring survey was undertaken to characterise baseline ambient noise levels currently experienced on the site and to establish the relative local background and traffic noise levels. Equipment used during the survey included:

Rion NL-52	*Environmental Noise Analyser (WYG15)*	*s/n*	*620858*
Rion NL-52	*Environmental Noise Analyser (WYG16)*	*s/n*	*1221576*
Rion NC-75	*Sound Calibrator*	*s/n*	*35480543*

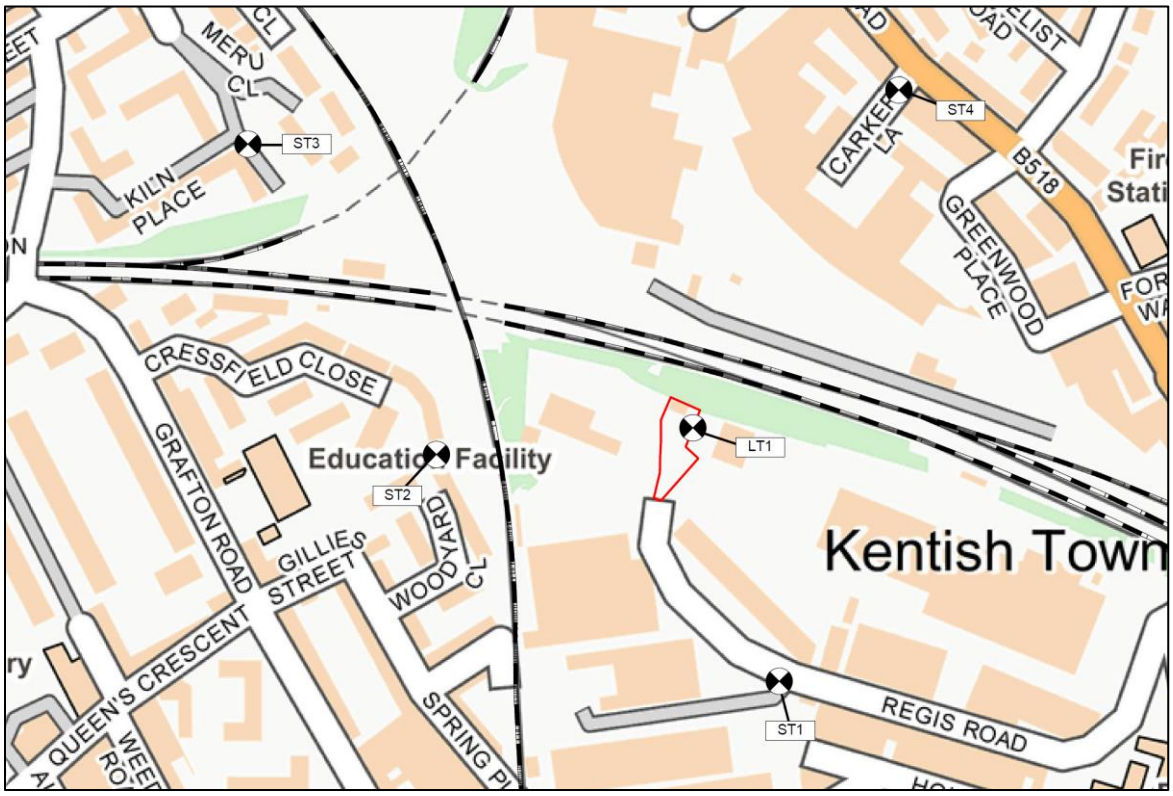
The measurement equipment was checked against the appropriate calibrator at the beginning and end of the measurements, in accordance with recommended practice, a maximum drift of +0.3 dB was observed. The accuracy of the calibrators can be traced to National Physical Laboratory Standards, calibration certificates for which are available on request.

A baseline monitoring survey was undertaken at five locations (as specified in the following table and shown in Figure 4.1) from Tuesday 10th August 2021 to Tuesday 17th August 2021. Attended short term measurements were undertaken at four locations during daytime, evening, and night-time periods with one additional location being measured unattended over a 168-hour period. Source measurements were undertaken too. The raw data collected from the long-term (LT) monitoring is available upon request. Measurements were taken in general accordance with BS 7445-1:2003 *The Description and Measurement of Environmental Noise: Guide to quantities and procedures*. Weather conditions during the survey period were observed as being mostly dry. Anemometer readings confirmed that wind speeds were less than 5 ms^{-1} at all times during the survey, with mixed wind directions, during the survey.

Table 4.1 Noise Monitoring Locations

Ref	Description
LT1	On Northeast boundary of site
ST1	South of 11 Regis Road
ST2	Northwest of 36 Woodyard Close
ST3	West of 169 Kiln Place
ST4	Corner of Carker's Lane and Highgate Road

Figure 4.1 Noise Monitoring Locations



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Noise Survey Results

The dominant noise sources found in the area at the time of the survey were road traffic noise from various streets in the area, trains passing by and some industrial noise.

Ambient and background noise levels are usually described using the L_{Aeq} index (a form of energy average) and the L_{A90} index (i.e. the level exceeded for 90% of the measurement period) respectively.

Table 4.2 Meteorological Conditions during the Survey

Survey Location	Date & Time	Temperature (ºC)	Wind Speed (m/s)	Wind Direction	Cloud Cover (Oktas)	Dominant Noise Sources
Daytime ST1	17/08/2021 11:29	16	1-2	W	8	Road traffic on Regis Road, industrial noise from recycling plant, trains passing.
Daytime ST2	17/08/2021 10:14	15	1-2	W	8	Distant road and rail traffic.
Daytime ST3	17/08/2021 10:34	15	1-2	W	8	People chatting on balconies, deliveries to flats.
Daytime ST4	17/08/2021 11:05	16	1-2	WSW	8	Road traffic and pedestrians on Highgate Road.
Evening ST1	16/08/2021 21:33	16	0-1	NW	4	Road traffic on Regis Road, constant plant hum audible to the Northeast.

Survey Location	Date & Time	Temperature (ºC)	Wind Speed (m/s)	Wind Direction	Cloud Cover (Oktas)	Dominant Noise Sources
Evening ST2	16/08/2021 21:58	16	0-1	NW	4	Distant road and rail traffic. Residents coming in and out of their homes.
Evening ST3	16/08/2021 22:20	15	0-1	NW	4	Distant road and rail traffic, occasional pedestrian or cyclist, constant hum for nearby flats to the West.
Evening ST4	16/08/2021 22:42	15	0-1	NNW	5	Road traffic on Highgate Road, pedestrians walking by and talking.
Night-time ST1	16/08/2021 23:37	14	0-1	NNW	-	Constant plant hum from units nearby, light road traffic, trains passing regularly.
Night-time ST2	16/08/2021 23:13	14	0-1	NNW	-	Distant trains passing, one aircraft overhead, one motorbike passing, residential noise.
Night-time ST4 (2)	16/08/2021 00:46	13	0-1	NW	-	Distant trains passing, one nearby train passing, dogs barking.
Night-time ST3	16/08/2021 00:02	14	0-1	NNW	-	Constant plant hum from nearby flats, barely audible conversations from flat windows.
Night-time ST4	16/08/2021 00:22	13	0-1	NNW	-	Road traffic on Highgate Road, occasional pedestrian walking past.

The results of the statistical measurements and frequency measurements conducted during the survey are summarised in the following table. All values are sound pressure levels in dB (re: 2 x 10^{-5} Pa).

Table 4.3 Results of Baseline Noise Monitoring Survey (Average Levels)

Period	Duration (T)	Monitoring Date and Times	Location	$L_{Aeq,T}$ (dB)	$L_{Amax,T}$ (dB)	$L_{Amin,T}$ (dB)	$L_{A10,T}$ (dB)	$L_{A90,T}$ (dB)
Weekday Daytime 07:00 - 23:00	80 Hours	10/08/2021 – 17/08/2021	LT1	54.8	85.6	42.4	56.3	47.0
Weekday Night-time 23:00 – 07:00	40 Hours	10/08/2021 – 17/08/2021		51.6	80.8	41.2	50.8	46.0
Weekend Daytime 07:00 - 23:00	32 Hours	10/08/2021 – 17/08/2021		52.9	78.3	41.3	54.0	44.0
Weekend Night-time 23:00 – 07:00	16 Hours	10/08/2021 – 17/08/2021		50.5	82.4	41.4	50.3	46.0
Daytime 09:30 - 16:30	15 Mins	17/08/2021 11:29	ST1	58.5	71.7	53.6	61.2	54.9
	15 Mins	17/08/2021 10:14	ST2	46.0	66.3	38.0	47.5	40.3
	15 Mins	17/08/2021 10:34	ST3	47.6	74.8	39.0	50.4	41.7
	15 Mins	17/08/2021 11:05	ST4	68.0	80.2	49.0	71.5	57.5
Evening 19:00 - 23:00	15 Mins	16/08/2021 21:36	ST1	58.6	78.1	52.6	59.9	53.8
	15 Mins	16/08/2021 21:58	ST2	44.4	68.7	31.4	47.2	33.0
	15 Mins	16/08/2021 22:20	ST3	47.5	66.5	42.5	49.0	44.7
	15 Mins	16/08/2021 22:42	ST4	64.7	79.3	39.5	69.3	45.8
Night-time	15 Mins	16/08/2021 23:37	ST1	55.3	78.6	51.8	53.9	52.8

Period	Duration (T)	Monitoring Date and Times	Location	$L_{Aeq,T}$ (dB)	$L_{Amax,T}$ (dB)	$L_{Amin,T}$ (dB)	$L_{A10,T}$ (dB)	$L_{A90,T}$ (dB)
23:00 - 07:00	15 Mins	16/08/2021 23:13	ST2	47.3	73.9	29.7	40.3	31.5
	15 Mins	17/08/2021 00:47	ST2 (2)	45.7	68.3	29.2	35.4	30.8
	15 Mins	17/08/2021 00:02	ST3	47.3	69.7	42.9	47.9	44.5
	15 Mins	17/08/2021 00:23	ST4	62.0	78.7	37.6	66.4	39.8

All values are sound pressure levels in dB re: $2x\ 10^{-5}$ Pa

5.0 ASSESSMENT OF EFFECTS

5.1 Noise Intrusion Assessment - Cumulative

Internal noise levels, at nearby sensitive receptors from all sources of potential noise associated with the proposed development (including delivery vehicle movements, parking and building services plant) have been assessed both with windows open, where a reduction from a partially open window of 10 dB has been used, and with windows closed where an assumption of single glazing with a sound reduction of 30 dB has been used.

Table 5.1 Daytime Noise Intrusion Levels $L_{Aeq\ 1\ hour}$

Location	External L_{Aeq}	Internal L_{Aeq} with windows open	Internal L_{Aeq} with windows closed	Criteria L_{Aeq}
R01	33.9	23.9	3.9	35
R02	33.8	23.8	3.8	35
R03	27.7	17.7	0.0	35
R04	30.4	20.4	0.4	35
R05	29.5	19.5	0.0	35
R06	31.4	21.4	1.4	35
R07	30.1	20.1	0.1	35
R08	22.6	12.6	0.0	35
R09	23.3	13.3	0.0	35
R10	24.5	14.5	0.0	35
R11	22.1	12.1	0.0	35
R12	21.3	11.3	0.0	35
R13	25.1	15.1	0.0	35
R14	19.1	9.1	0.0	35
R15	21.3	11.3	0.0	35

All values are sound pressure levels in dB re: 2×10^{-5} Pa.

Table 5.2 Night-time Noise Intrusion Levels $L_{Aeq\ 15mins}$

Location	External L_{Aeq}	Internal L_{Aeq} with windows open	Internal L_{Aeq} with windows closed	Criteria L_{Aeq}
R01	38.0	28.0	8.0	30
R02	37.9	27.9	7.9	30
R03	31.3	21.3	1.3	30
R04	34.4	24.4	4.4	30
R05	32.5	22.5	2.5	30
R06	32.7	22.7	2.7	30
R07	31.6	21.6	1.6	30
R08	23.8	13.8	0.0	30
R09	25.0	15.0	0.0	30
R10	26.3	16.3	0.0	30
R11	24.3	14.3	0.0	30
R12	24.8	14.8	0.0	30
R13	29.1	19.1	0.0	30

Location	External L_{Aeq}	Internal L_{Aeq} with windows open	Internal L_{Aeq} with windows closed	Criteria L_{Aeq}
R14	22.5	12.5	0.0	30
R15	24.6	14.6	0.0	30

All values are sound pressure levels in dB re: 2x 10^{-5} Pa.

Table 5.3 Night-time Noise Intrusion Levels L_{Amax} (Night-time)

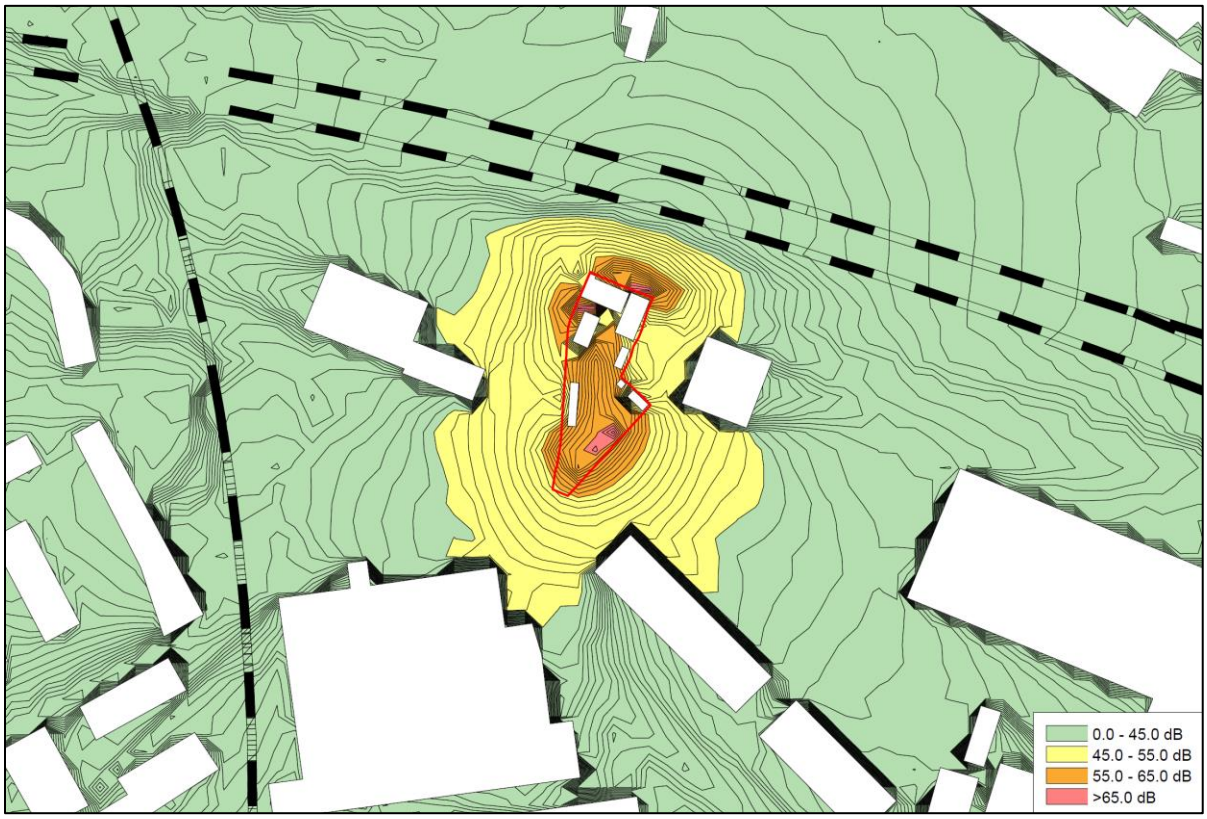
Location	External L_{Aeq}	Internal L_{Aeq} with windows open	Internal L_{Aeq} with windows closed	Criteria L_{Aeq}
R01	51.8	41.8	21.8	45
R02	51.8	41.8	21.8	45
R03	44.0	34.0	14.0	45
R04	48.5	38.5	18.5	45
R05	45.4	35.4	15.4	45
R06	42.3	32.3	12.3	45
R07	41.6	31.6	11.6	45
R08	33.5	23.5	3.5	45
R09	36.3	26.3	6.3	45
R10	37.8	27.8	7.8	45
R11	36.3	26.3	6.3	45
R12	38.2	28.2	8.2	45
R13	43.4	33.4	13.4	45
R14	35.4	25.4	5.4	45
R15	37.6	27.6	7.6	45

All values are sound pressure levels in dB re: 2x 10^{-5} Pa.

The assessment shown in the tables above indicates that, inclusive of mitigation, internal L_{Aeq} and L_{Amax} noise levels from all potential noise sources are predicted to be within the BS 8233 noise intrusion criteria at all sensitive receptor locations during the daytime and night-time periods, and so fall below the LOAEL.

For indicative purposes, the night-time noise contour is presented in Figure 5.1.

Figure 5.1 Operational Noise Contour Plot (Night-time dB $L_{Aeq15mins}$)



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Cross section at 4.0m above ground level

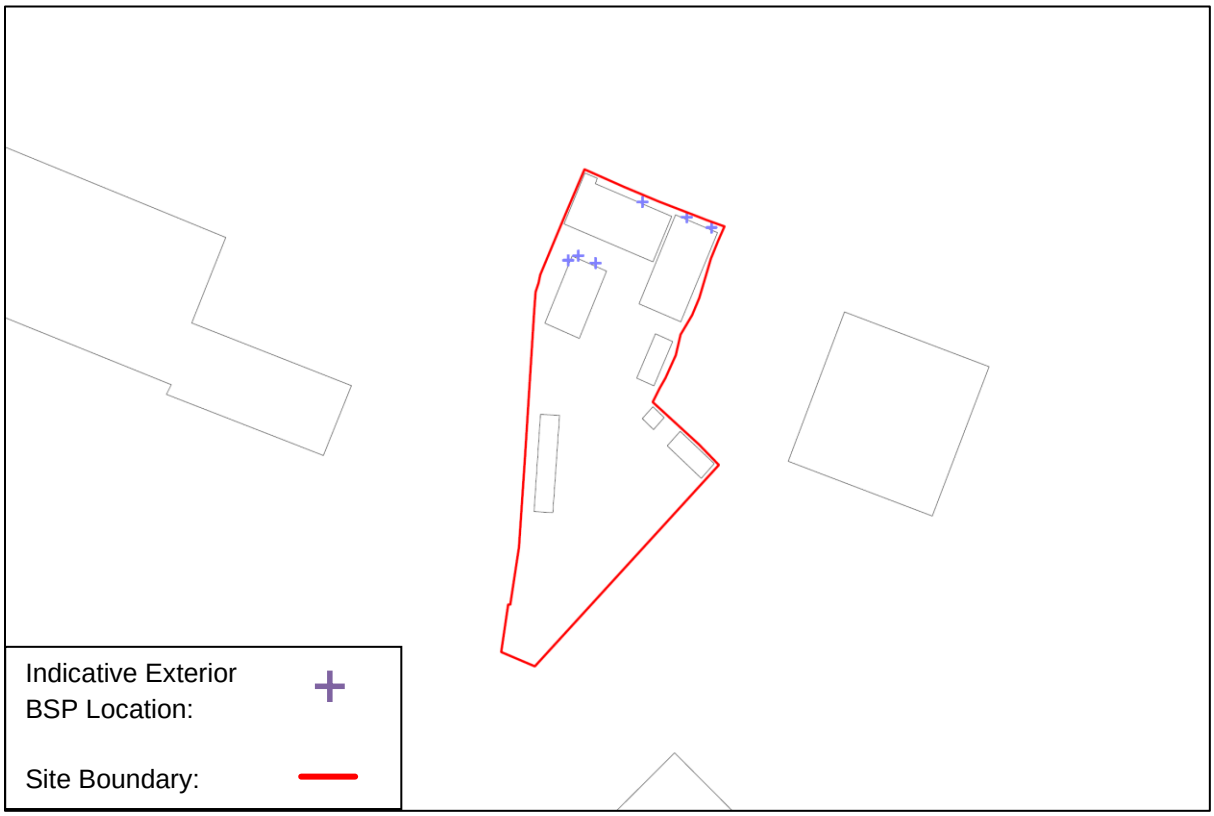
6.3 BS4142 Plant Noise Assessment

This assessment compares the predicted plant noise and louvre breakout levels with the measured daytime and night-time background L_{A90} noise levels at the closest existing residential receptors.

With the plant units presented within Section 3.2 are installed, noise levels at all the existing receptors are predicted to be at least 17 dB below the existing background levels during the worst-case night-time period, indicative of a low impact and within the No Observed Adverse Effect Level.

In accordance with section 9.2 of BS4142 an overall +3 dB character correction has been applied to all calculations to account for any tonal characteristics of noise from the plant units that may be just perceptible. The assessment presented below has been undertaken with the plant operating at full capacity.

Figure 5.2 Indicative Plant Locations



Not to scale
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Table 5.4 BS 4142 Proposed BSP Assessment

Location	Existing Measured Background L_{A90}		Rating level from plant ($L_{A,Tr}$)		BS 4142 Score	
	Daytime	Night-time	Daytime	Night-time	Daytime	Night-time
R01	33	31	13	13	-21	-19
R02	33	31	12	12	-21	-19
R03	33	31	8	8	-25	-23
R04	33	31	11	11	-22	-20
R05	33	31	14	14	-19	-17
R06	45	45	18	18	-27	-27
R07	45	45	17	17	-29	-29
R08	49	40	9	9	-40	-31
R09	49	40	10	10	-40	-31
R10	49	40	11	11	-39	-30
R11	49	40	8	8	-41	-32
R12	54	53	3	3	-51	-50
R13	54	53	6	6	-48	-47
R14	54	53	1	1	-53	-52
R15	54	53	4	4	-50	-49

6.0 CONCLUSIONS OF NOISE ASSESSMENT

This report presents the findings of a noise assessment undertaken to accompany a Planning Application for the use of commercial pods with associated parking, vehicle charging and building plant at Regis Road, Kentish Town.

Sections 174 (e), 185 (a & b), 187 and 188 of the NPPF provide test points relating to noise, considering each of these points, the following conclusions can be drawn in relation to the proposed employment development operations:

Cumulative operational noise levels are predicted to be below the guideline noise intrusion criteria at nearby properties during the daytime period assuming both a windows-open and a windows-closed scenario, and are predicted to fall below the Lowest Observed Adverse Effect Level. As such, no additional mitigation is proposed for the site.

Additionally, plant noise levels do not exceed the BS 4142 rating criteria of 10dB below existing background noise level at nearest sensitive receptors.

Overall, noise from the proposed redevelopment is predicted to have a low impact and noise levels fall within the Lowest Observed Adverse Effect Level (LOAEL).

APPENDICES

APPENDIX A – ACOUSTIC TERMINOLOGY AND ABBREVIATIONS

An explanation of the specific acoustic terminology referred to within this report is provided below.

dB — Sound levels from any source can be measured in frequency bands in order to provide detailed information about the spectral content of the noise, i.e. whether it is high-pitched, low-pitched, or with no distinct tonal character. These measurements are usually undertaken in octave or third octave frequency bands. If these values are summed logarithmically, a single dB figure is obtained. This is usually not very helpful as it simply describes the total amount of acoustic energy measured and does not take any account of the ear's ability to hear certain frequencies more readily than others.

dB(A) — Instead, the dBA figure is used, as this is found to relate better to the loudness of the sound heard. The dBA figure is obtained by subtracting an appropriate correction, which represents the variation in the ear's ability to hear different frequencies, from the individual octave or third octave band values, before summing them logarithmically. As a result the single dBA value provides a good representation of how loud a sound is.

L_{Aeq} — Since almost all sounds vary or fluctuate with time it is helpful, instead of having an instantaneous value to describe the noise event, to have an average of the total acoustic energy experienced over its duration. The $L_{Aeq,\ 07:00 - 23:00}$ for example, describes the equivalent continuous noise level over the 12 hour period between 7 am and 11 pm. During this time period the L_{pA} at any particular time is likely to have been either greater or lower that the $L_{Aeq,\ 07:00 - 23:00}$.

L_{Amin} — The L_{Amin} is the quietest instantaneous noise level. This is usually the quietest 125 milliseconds measured during any given period of time.

L_{Amax} — The L_{Amax} is the loudest instantaneous noise level. This is usually the loudest 125 milliseconds measured during any given period of time.

L_n — Another method of describing, with a single value, a noise level which varies over a given time period is, instead of considering the average amount of acoustic energy, to consider the length of time for which a particular noise level is exceeded. If a level of x dBA is exceeded for say. 6 minutes within one hour, then that level can be described as being exceeded for 10% of the total measurement period. This is denoted as the $L_{A10,\ 1\ hr}$ = x dB.

The L_{A10} index is often used in the description of road traffic noise, whilst the L_{A90}, the noise level exceeded for 90% of the measurement period, is the usual descriptor for underlying background noise. L_{A1} and L_{Amax} are common descriptors of construction noise.

R_w — The *weighted sound reduction index* determined using the above *measurement* procedure, but weighted in accordance with the procedures set down in BS EN ISO 717-1. Partitioning and building board manufacturers commonly use this index to describe the inherent sound insulation performance of their products.

An explanation of abbreviations used within this report is provided below.

CADNA – Computer Aided Noise Abatement

DMRB – Design Manual for Roads and Bridges

HGV – Heavy Goods Vehicle

UDP – Unitary Development Plan

UKAS – United Kingdom Accreditation Service

APPENDIX B – REPORT CONDITIONS

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